THE ORCHID ALBUM.

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THE

ORCHID ALBUM,

COMPRISING

COLOURED FIGURES AND DESCRIPTIONS

OF

NEW, RARE, AND BEAUTIFUL

ORCHIDACEOUS PLANTS.

CONDUCTED BY

ROBERT WARNER, F.L.S., F.R.H.S.,
AUTHOR OF SELECT ORCHIDACEOUS PLANTS,

AND

BENJAMIN SAMUEL WILLIAMS, F.L.S., F.R.H.S.,
AUTHOR OF THE ORCHID-GROWERS' MANUAL, ETC.

THE BOTANICAL DESCRIPTIONS BY THOMAS MOORE, F.L.S., F.R.H.S.,
CURATOR OF THE CHELSEA BOTANIC GARDENS.

THE COLOURED FIGURES BY JOHN NUGENT FITCH, F.L.S.

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MISSOURI
BOTANICAL
GARDEN.

DEDICATED

BY SPECIAL PERMISSION

TO

H.R.H. The Princess of Wales,

BY

HER ROYAL HIGHNESS'

Very obedient and humble Servants,

ROBERT WARNER,
BENJAMIN S. WILLIAMS.

PREFACE.

THE great advances which have been made within the last few years in the introduction and the cultivation of Exotic Orchids, have suggested the desirability of devoting a monthly publication to the illustration of the best forms of these singular and captivating aristocratic plants, and also to the explanation of the most successful methods of growing them, its object being to supply such information concerning them as the Orchid Grower may be likely to find useful in directing his purchases, and in suggesting the various points of discreet and masterly management. Moreover, we have found that figures of the better varieties of Orchids are much in request.

These considerations have induced us to commence the publication of the ORCHID ALBUM, in the confident expectation that we shall meet with sufficient support and encouragement to enable us to continue it, and, so far as our experience goes, we have no reason to feel disappointed, for we find that Orchid growers, both amateur and professional, are taking a marked interest not only in the plates but also in the cultural notes.

In regard to the subjects for illustration, we hope in due course to figure not only the typical form of all the more popular and interesting species, but also the leading varieties, when they prove sufficiently distinct and meritorious. It is for these that we anticipate our subscribers and readers will most anxiously look.

Being of Royal Quarto size, the pages of the Album are sufficiently large to enable the artist to produce ample and intelligible portraits of the plants without their becoming cumbersome; and, as they will be drawn and coloured in the best style, we confidently hope they will prove to be acceptable to the lovers and growers of Orchids generally. Thus we trust we may be permitted to lay before our patrons an acceptable Annual Album of Floral Pictures, which will be, at once, welcomed both to the Drawing-room and the Library.

The work has been commenced in deference to the urgent representations of

many of the leading cultivators of these remarkable and fascinating plants, who have pointed out to us the want which we are now endeavouring to meet. The great advantage and pleasure which Orchid Growers have derived from the publication of such illustrated works as the *Select Orchidaceous Plants*, and such practical instructions as are given in the *Orchid Grower's Manual*, lead us to believe that there exists a desire and a taste for further Orchidic literature, which we trust the ORCHID ALBUM may in some considerable degree supply. Our chief aim will be to give authentic information as to the nomenclature of the plants, and to disseminate correct instructions in regard to their cultural requirements. The finer new Orchids, as well as the older meritorious species and varieties, will be figured with equal fidelity, and described with equal accuracy. We shall at all times feel grateful to those Amateurs or Trade growers who may give us information as to the flowering either of novelties or of remarkably fine forms of the older kinds, especially if they are such as will be suitable for figuring.

The Annual Volumes will consist of the twelve Monthly Parts issued up to June in each year, when the volume will be completed by the publication of a Title Page and Index.

B. S. WILLIAMS.

VICTORIA AND PARADISE NURSERIES,
UPPER HOLLOWAY, LONDON, N.,
June 1st, 1882.

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ONCIDIUM CONCOLOR.

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ONCIDIUM CONCOLOR.

[Plate 1.]

Native of the Organ Mountains of Brazil.

Epiphytal. *Pseudobulbs* small, tufted, ovate or ovate-oblong, compressed, somewhat furrowed, two-leaved. *Leaves* subcoriaceous, oblong-linear or ligulate, acute, bright green. *Scape* radical, springing from the base of the young pseudobulbs, drooping, furnished with small bracts. *Flowers* yellow, racemose; *sepals* (dorsal) ovate-lanceolate or obovate, acute, the lateral ones smaller, lance-shaped, and united behind the lip for about half their length; *petals* obovate, acute, somewhat undulated, about as long as the sepals; *lip* (labellum) large and prominent, roundish subpanduriform, emarginate, somewhat clawed, furnished with a pair of plates or lamellæ (bilamellate) at the base, of a clear yellow colour, as are the sepals and petals. *Column* about half as long as the petals, with a projecting tooth on each side.

Oncidium concolor, *Hooker, Botanical Magazine*, t. 3752; *Lindley, Folia Orchidacea*, Art. *Oncidium*, No. 65 (excl. syn. Klotzsch); *Reichenbach fil.* in *Walpers' Annales Botanices Systematicæ*, vi. 731.; *Carrière*, in *Revue Horticole*, 1881, 30, with tab.

Cyrtochilum citrinum, *Hooker, Botanical Magazine*, t. 4454.

The brilliant little plant here figured—a representation in the tribe *Vandeæ*, of the great genus *Oncidium*—belongs to the group of Oncids which Lindley named *Tetrapetala micropetala*, in which two of the sepals are united so that the petaloid organs, as distinguished from the lip, are reduced to four in number (*tetrapetala*), and at the same time the petals, which are about equal in size to the sepals, are comparatively small by comparison with the remaining organ.

This species, although not new, was until recently extremely rare, and was, indeed, seldom met with in collections; now, however, the little gem is very plentiful, thanks to the indefatigable zeal of our collectors, so that growers who do not possess it may obtain it at a very small cost. The species is one of the most compact-growing and beautiful of the *Oncidiums*, producing, as it does, from the base of the new bulbs, many-flowered drooping spikes of rich yellow blossoms. It is an excellent subject for planting in a pan or basket to be suspended from the roof of the house, where the brightly-coloured flowers produce a charming effect; indeed, we do not know of any Orchid which has a better appearance when grown in this way.

Oncidium concolor succeeds best in a compost of peat with a little sphagnum moss added, and with plenty of good drainage. We have grown it most successfully in small pans, but it can be cultivated either in a basket or on a block. It would

succeed equally well in a pot, but the drooping character of the flower-spikes renders it a most fitting subject for growing in either of the above-named receptacles, and for suspension from the roof. As to temperature, we find it succeeds best in the Odontoglossum-house during the summer months. After it has flowered, and while it is making its growth, a copious supply of water should be given to it, always keeping the soil moist until the growth of the bulbs is completed. When it has finished its growth, it should be removed to the Cattleya-house, where it should be kept moderately dry until it produces its spikes about March or April.

For exhibition purposes this is a most valuable little plant, being easy of cultivation, distinct in colour, and flowering during the principal exhibition months, May and June; its long lasting quality is also a great point in its favour. In order to preserve the flowers for a considerable time, they should be kept free from damp, for if allowed to get wet they soon become spotted, and fade, but when kept in this way, they will last at least six or seven weeks. The plant is altogether a most valuable Orchid, and as it takes up but little room, we recommend growers to procure a good stock of it, as its effect when suspended among other flowering Orchids is charming.

Orchids in Belgium.—When in Ghent a few days ago, I had the good fortune to receive an invitation to view the celebrated collection of Dr. Boddaert of that city. The collection is a very extensive one, and the plants are exceedingly well grown and healthy. There was a good show of flowering Orchids, among which may be mentioned:—*Trichopilia crispa marginata* with forty-two expanded flowers, a marvel of cultivation; *Odontoglossum Phalænopsis* with twenty-six flowers, a fine well-grown plant; *Cypripedium Argus* with six flower spikes; the new *Trichophilia suavis alba*, of which we hope to give a plate later on; *Anguloa Ruckerii sanguinea* with several flowers; also the rare *Nanodes Medusæ*, with *Odontoglossums*, *Vandas*, *Masdevallias*, &c., in great variety.

H. Williams.

LÆLIA SCHRÖDERII.

Nugent Fitch del.

LÆLIA SCHRÖDERII.

[Plate 2.]

Native of Bahia.

Epiphytal. *Stems* (or pseudobulbs) club-shaped, about a foot and a half high, monophyllous, furrowed when mature. *Leaves* coriaceous, oblong, acute, broad to the base, light green. *Scape* three to four-flowered, issuing from a terminal oblong compressed bract, an inch wide and five inches long. *Flowers* large, subhorizontal, about seven inches across, delicately coloured, with a prettily veined lip; *sepals* lanceolate, reflexed, three-fourths of an inch wide, white; *petals* convex, ovate, narrowed to the base, somewhat crispy at the edge, pure white, scarcely as long as the lip; *lip* (labellum) membranaceous, three-lobed, the lateral lobes convolute around the column, yellow outside, striped with deeper yellow veins, the middle lobe ovate, obtuse, undulated, the anterior portion and margin white, the mouth veined with magenta-rose, the disk naked, and the tubulose basal portion deep yellow, veined with magenta. *Column* much shorter than the lateral lobes of the lip.

Lælia Schröderii, *supra.*

This plant belongs to that tribe of the Orchid family which is called *Epidendreæ*, and of which the genus *Epidendrum* is regarded as the type. This group is known by its waxy pollen-masses, which are attached to a distinct caudicle, but bear no separable stigmatic gland as occurs in the tribe *Vandeæ*. The genus is closely related to *Cattleya*, and contains some of the finest ornaments of our Orchid-houses.

The subject of our present illustration is a new and most beautiful Orchid, now figured and described for the first time. It is closely allied to *Lælia grandis*, but is distinct from that species, inasmuch as the sepals and petals are white, whereas those of *L. grandis* are of a nankeen yellow. It is named in honour of Baron Henry Schröder, an enthusiastic admirer of this handsome class of plants. The species flowered for the first time this year, in the Victoria and Paradise Nurseries.

The flowers are produced in May and June, three or four together, on spikes which are produced from the apex of the new bulbs; they have a delicate and pleasing appearance, the sepals and petals being pure white, while the lip is white, striped with rose, throat deep yellow, veined with magenta. It should be kept free from damp when in flower, as the blossoms being of a delicate nature, soon spot and go off; but kept in this way free from moisture they will last about four weeks in a fresh and perfect state.

In growth the plant somewhat resembles *L. purpurata*, the bulbs and foliage being about eighteen inches in height, and of a light green colour. It succeeds well grown in the Cattleya-house in pots filled with peat and a little sphagnum moss, over plenty of drainage. It should receive a moderate supply of water at the root during the growing season, and should never be allowed to get thoroughly dry. When it has made its growth it should be allowed to rest, and at that time should be kept rather dry, only giving it sufficient water to prevent it from shrivelling.

Lælias are subject to the attacks of white scale, but this can easily be got rid of by sponging with clean water. Thrips sometimes attack the young growths, and if allowed to increase, soon disfigure the leaves.

Cattleya gigas and C. Dowiana.—These *Cattleyas* have been considered to be shy-flowering species, and we have sometimes found them to be so in our own experience, but we are beginning to change our opinion on this subject. No doubt there are some plants that grow and flower more freely than others, but a great deal depends on the conditions in which they are placed and the treatment they receive. I recently had the pleasure of visiting the collection of W. Lee, Esq., of Leatherhead, which in time will be one of the finest to be seen in this country. The Estate is situated in an open part of the country, and the Orchid-houses are built on the side of a hill where they get the full light and sun, while they are sheltered from the driving winds; these houses are, indeed, all that can be desired, the requisitions of the various classes of plants having been well studied. Every accommodation is provided for those kinds, such as *Cattleya gigas* and *C. Dowiana*, that are difficult to bloom. These two were splendidly in flower, and are most lovely and distinct kinds; the flowers of *C. gigas* were nearly nine inches in diameter, the sepals and petals of the purest dark rosy colour, and the lip a fine rich dark crimson magenta. *C. Dowiana* was also very fine and attractive in colour, the sepals and petals being of a nankeen yellow, and the lip of a rich dark purple, elegantly pencilled and striped with lines of gold. We hope at some future time to give our readers a plate of the fine variety of *C. gigas* above referred to. Both these species are here grown as near the light as possible, and the treatment they receive is, first to induce a vigorous growth, and then to give them a good rest after the growth is completed, at the same time keeping them well exposed to the light, and giving them merely sufficient water to prevent them from shrivelling, a more ample supply of water being given as soon as they show signs of flowering. There was also in this collection another species that is generally considered difficult to grow, namely, *Vanda teres*, of which there were three plants which had been blooming very finely. When cultivated as these are, they well repay all the trouble taken with them. These are grown at one end of the house, without any shade.—B. S. W.

CATTLEYA MENDELII L. GRANDIFLORA

CATTLEYA MENDELII GRANDIFLORA.

[Plate 3.]

Native of the United States of Columbia.

Epiphytal. *Stems* oblong, club-shaped, furrowed when mature, twelve to eighteen inches high. *Leaves* solitary coriaceous, ligulate-oblong, acute, dark green above, paler beneath. *Scape* three to four-flowered, issuing from a terminal oblong compressed bract, which is three to four inches long, and an inch broad. *Flowers* very large and exceedingly handsome, measuring eight inches across; *sepals* an inch wide, lanceolate, recurved, white; *petals* spreading, clawed, broadly ovate, measuring nearly three inches across, plane towards the base prettily frilled in the anterior portion, the apex recurved, white, with a scarcely perceptible tint of blush near the edge; *lip* obovate emarginate, three and a quarter inches long, the basal half entire, rolled over the column, the anterior portion expanded and beautifully fringed, about two inches in breadth and rather more in depth, the apical half occupied with a solid blotch of rich magenta rose, passing to white at the frilled edge, the side portions white, the disk and throat of a delicate tint of nankeen yellow, the extreme base white, with numerous divergent lines of magenta rose, a few of which (about two) run out to join the blotch at the tip of the anterior lobe. *Column* about half as long as the convolute base of the lip, club-shaped, decurved, semiterete, with a rounded keel at the back.

Cattleya Mendelii grandiflora, *supra.*

When *Cattleya Mendelii* was first flowered by S. Mendel, Esq., some few years ago, many botanists were of opinion that it was not sufficiently dissimilar from, but only a variety of, *C. Trianæ.* Since that time it has been flowered in many different collections with but little variation of character, and, as we think, has fully vindicated its right, whether as a species or race, to be regarded as a distinct Orchid of first-rate merit.

The subject of our plate is a gigantic variety of the *Cattleya Mendelii,* which has just flowered in our own collection. It proves to be in every way larger, and altogether superior, to the old type, the flowers having much more substance, and being of better form, which results from the greater width of the lip and petals. The sepals and petals are white, the latter being very broad and of good substance, while the lip is broad and well fringed, pure white in its upper part, with a large bright magenta patch at the front part, and the throat is orange, with reddish crimson veins, which stand out in fine contrast against the pure white of the remaining portions of the flower. It produces as many as four flowers on a spike, each flower measuring over eight inches across, and the flowers are thrown

well up above the foliage, and thus produce the grandest appearance we have as yet seen in any *Cattleya*.

Cattleya Mendelii succeeds well in a compost of peat, with the addition of a little sphagnum moss, and requires good drainage. We have found it to do best in pots, with the plant well elevated above the rim, but it can be grown with success either on a block or in a basket suspended from the roof of the house. The temperature of the Cattleya-house suits it best.

This is a grand plant for exhibition or decorative purposes, as the pure white and magenta of its flowers are exceedingly effective amongst the other species of *Cattleya* which flower at the same time of year. The flowering season is May and June, after which time *C. Mendelii* begins to make its growth. It should then receive a moderate supply of water—not too much, as an over bountiful supply is apt to cause the young growths to rot. After the annual growths are completed the plants should be gradually dried off, only giving them sufficient water to keep them from shrivelling.

The species of *Cattleya* are all subject to white scale and thrips. These insect pests may, however, be easily removed by careful sponging, either with water or a little insecticide; they should be cleaned off as soon as discovered, as if allowed to establish themselves they disfigure the leaves and bulbs, and so spoil the appearance of the plants. Cleanliness and good cultivation are the chief points to be considered in the successful keeping of *Cattleyas*.

Vanda Lowii, &c.—One often hears that *Vanda Lowii* does not bloom until it attains a large size. This, however, is erroneous, for we have flowered it when not more than two feet high; and we have also seen a plant of about the same size in the collection of Sir Trevor Lawrence, Bart., with a flower spike some four or five feet long, in full beauty, with its two bright orange-yellow flowers at the base, the rest of the blossoms being of a bright brownish-crimson colour. This was a most extraordinary spike for so small a plant. When the specimens attain a larger size they often produce six of these long spikes, which extend to seven feet in length. We have one now showing this number of spikes, but the plant is fully five feet high. We were glad to see in this collection a grand mass of *Epidendrum nemorale majus*, which is figured in the first series of Warner's *Select Orchidaceous Plants*, but we never expected to see such a specimen as that in the collection of Sir Trevor Lawrence, which must have been three or four feet across, and had eighteen spikes of its beautiful rosy and mauve-coloured flowers. This plant was well worth going to see, as were many others: indeed, the fame of this collection is so widely spread that it is almost needless to comment upon it; suffice it to say, that it is the finest and best kept collection we know of. At the time of our visit we were pleased to see some fine plants of *Cattleya superba* with their splendid deep rose and crimson flowers; this is one of the most distinct and beautiful of all *Cattleyas*, and had been grown in the East India House, suspended from the roof.—B. S. W.

EPIDENDRUM VITELLINUM MAJUS.

Nugent Fitch del.

EPIDENDRUM VITELLINUM MAJUS.

[Plate 4.]

Native of Mexico.

Epiphytal. *Pseudobulbs* ovate, clustered, two-leaved. *Leaves* oblong-ligulate, acute, sheathing at the base. *Scape* erect, six to nine inches high, racemose, many-flowered, longer than the leaves. *Flowers* brilliant orange-scarlet, nearly two inches across, much larger than the typical form; *sepals* spreading; *petals* flat, elliptic, somewhat broader than the sepals, spreading, lanceolate, acute; *lip* clawed, linear, abruptly acute, with a bifoveate (two-holed) callosity below the middle, deep yellow passing to orange-scarlet at the tip. *Column* parallel with and nearly half the length of the lip, to which it is adnate towards the base, the anther-bed marginate in front.

Epidendrum vitellinum majus, *of gardens.*

The original form of *Epidendrum vitellinum*, of which a good though pale-coloured figure will be found in the *Botanical Register* for 1840 (t. 35), is one of the most brilliant of the *Epidendreæ*, on account of its remarkable fiery colour, which makes it invaluable for contrasting with other subjects, both in the Orchid-house, in the jardinière, or in the bouquet. The same colour, or something near it, occurs in a few other Orchids, which are equally valuable from a decorative point of view, as for example in *Lælia cinnabarina*, *Lælia harpophylla*, and *Ada aurantiaca*, all of them being plants, which, under favourable conditions, yield a brilliant effect. The subject of our plate has the advantage of producing larger and more showy flowers than its type, and to this extent is the more desirable of the two for the house-stage, or exhibition table.

Until within the last few years this plant was very rare, but having been imported in large quantities it is now to be found in every collection, however limited its pretensions. The bright colour of its orange-scarlet flowers, produced in considerable numbers on upright spikes, renders it a most striking and distinct species. We have known the flowers to last as long as twelve weeks in perfection; in fact, we have on several occasions exhibited a plant of it at as many as six different successive exhibitions. Mixed with other Orchids it has a most telling effect; and a well-flowered specimen once seen by a novice is likely to produce a lasting impression. In the Broomfield collection it is used very largely in association with Odontoglossums, and the effect of the orange-scarlet flowers amongst the numerous spikes of *Odontoglossum Alexandræ*, and other species, is charming.

We have found this *Epidendrum* to do well in the Odontoglossum-house in a compost of peat and sphagnum moss. It does equally well in a pot or in a basket, and should receive a fair supply of water while growing. The plant seems to revel in a good amount of sunlight, but it must be kept from the burning rays of the sun by a slight shading, too much sunshine being apt to make the foliage become blotched and sickly-looking.

The variety *majus* blooms at a different time of the year from the original species, which has the flowers much smaller, and which blooms in August and September from the young growths; whereas the variety *majus* flowers from the tips of the bulbs of the previous year's growth. There are several forms of the plant, some with flowers much larger and brighter than others; indeed, the one here figured is not so large as some that were flowered years ago, which may be due to the fact that they were old-established plants. We remember the late Mrs. Lawrence, of Ealing Park, exhibiting a remarkably strong specimen at one of the Chiswick shows, thirty-five years since, a perfect blaze of flower. S. Brunton, Esq., also exhibited a grand plant of a good variety a few years back; and C. W. Lea, Esq., Parkfield, Worcester, had a wonderful example in bloom, last year. These several plants were all part of the early importations.

The Manchester Show of Orchids, June, 1881.—The display of Orchids at the Manchester Exhibition was a very fine one, and no Orchid grower should have missed the sight. The specimens were truly marvellous, especially the sixteen plants shown by R. Dodgson, Esq., of Blackburn, amongst which were a *Vanda suavis* with about a dozen flower-spikes; *Lælia purpurata* and *Cattleya Warneri*, both wonderful specimens, as also was *Masdevallia Harryana*; *Cypripedium barbatum superbum* which had a hundred blooms upon it, and was not made up for the occasion, but had been grown on from a single plant; and *Dendrobium Wardianum* which was a magnificent plant. Great credit is due to Mr. Osman for his talent, in successfully cultivating so fine a collection. G. Hardy, Esq., of Timperley, exhibited some wonderful plants, especially of *Cattleyas*, *Lælias*, *Dendrobium thyrsiflorum*, *Oncidium Marshallianum*, *Odontoglossum vexillarium*, &c. R. F. Ainsworth, Esq., M.D., also exhibited some fine specimens, especially *Vanda suavis*, *Aërides Fieldingii*, and *A. Schröderii*; these three are most extraordinary plants, and have been grown in the collection for eighteen years, which is a sufficient proof of what can be done by perseverance, and, moreover, gives one an idea how well Orchids can be grown and exhibited for many successive years. We have known these three specimens to be shown at the Manchester exhibitions and elsewhere for the past ten or fifteen years, and they are now in the finest possible condition, as they have always been, under the successful management of Mr. Mitchell. There were besides, other exhibitors whose specimens were well worthy of note.—B. S. W.

Nugent Fitch del. et lith.

MASDEVALLIA SHUTTLEWORTHII.

MASDEVALLIA SHUTTLEWORTHII.

[Plate 5.]

Native of the United States of Colombia.

Epiphytal. *Rhizome* slender, slowly creeping. *Leaves* crowded, petiolate, the petiole with a sheathing scale at the base, the blade about equalling the petiole, two to three inches long, elliptic-oblong, acute, pale green, obscurely three to five-nerved. *Scapes* numerous, slender, as long as or longer than the petioles, green, with an ovate acuminate appressed bract at the top. *Flowers* yellowish, tinted with rose, rather large for the size of the plant; the perianth tube very short and swollen at the base; *dorsal sepal* of a pale yellowish red, indistinctly dotted with pale rosy red spots, and marked with from five to seven (or nine according to Reichenbach) longitudinal wine-coloured nerves, fully an inch long, sub-erect, concave or somewhat hooded, obovate, suddenly contracted into a tail two or three times its own length, the tail green below and becoming orange-yellow towards the tip; *lateral sepals* obliquely ovate, spreading, and decurved, thickly studded with deep red spots, and tapering off into a tail similar to that of the dorsal sepal; *petals* small, linear-oblong or ligulate, bilobed at the apex; *lip* very small, broadly oblong, recurved at the tip, with two keels or ridges running down the centre. *Column* short, three-toothed at the apex.

Masdevallia Shuttleworthii, *Reichenbach fil.* in *Gardeners' Chronicle*, n.s. iii., 170; *Hooker fil., Botanical Magazine*, t. 6372.

Of this interesting plant, one of a popular genus inhabiting the cool temperate humid regions of Northern and Western South America, Professor Reichenbach, by whom it was dedicated to Mr. Shuttleworth, one of Mr. W. Bull's collectors, remarks that it is "rather a nice thing amongst *Masdevallias* of the second order of beauty." It was first flowered in 1878 by W. H. Pumehard, Esq., of Poulett Lodge, Twickenham. Our figure was prepared from a plant which has bloomed in our own collection recently. We find it to be a very free-blooming species.

The *Masdevallias* comprise many interesting species and varieties, some of very remarkable structure, and others with colours of extraordinary richness and brilliancy. Our present subject is not one of the most showy, but it may be ranked with the more curious of the species, and is certainly of a distinct and pleasing character, as is well represented in our Plate. The plant was discovered by Mr. Shuttleworth, when travelling for Mr. Bull, and by him it was first transmitted to Europe. Since then we have received it from the same country through our own collector, Mr. Carder. The *Masdevallias* are plentiful in their native habitats, but the difficulty of obtaining them in this country lies in the risks attending importation, which are mainly attributable to the fact that they have no thick fleshy bulbs to support them

during their journey. We have heard of thousands of plants of this particular species having been sent off, but of these comparatively few have been received alive, so that unless some more successful means of introducing them into England can be found, it will always remain a rare plant.

Masdevallia Shuttleworthii is of free-blooming habit, and the flowers last a long time in perfection. It generally blossoms during the spring and summer months. The plants require but little room, as the foliage is of neat growth, and the whole height of the plant does not exceed from six to eight inches. The leaves are of a dark green colour and firm texture. The flower-scapes proceed from the young growth, and attain the height of about eight inches, the more conspicuous spreading long-tailed sepals being of a pleasing yellowish rose colour thickly marked with wine-red spots, while the petals and lip are small and inconspicuous.

We find the plants grow well when potted in small pots or pans suspended from the roof, and filled with peat and sphagnum moss; but they require thorough drainage, since they need a liberal supply of water during summer. In the autumn and winter months they do not require so full a supply, but they must have sufficient to keep them moist. They thrive best in the same house with the *Odontoglots*, where they obtain shade, and are kept cool. None of the *Masdevallias* like heat, and most of them require the same kind of treatment. The house in which they are grown should have a north aspect, so that they may not get too much sun-heat, as this causes the leaves to become spotted, to the great disfigurement of the plant.

Insects become a nuisance if allowed to accumulate on the plants. The thrips, which is one of their greatest insect enemies, constantly attacks them, and must be subdued by cleansing them frequently and thoroughly with a sponge and warm soft water.

The propagation of *Masdevallias* is effected by dividing the plants, leaving a few old bulbs with a leading one in front. They are the easiest of all Orchids to increase, and are best divided up occasionally, as when the plants get too large they do not flower so freely. The most suitable time to perform this operation is just as they commence to make their growth. They should at first be put into small pots, and shifted into larger ones as they increase in size, and develope abundance of roots.

Lælia Philbrickiana.—This new Hybrid was exhibited at the Royal Horticultural Society, South Kensington, by the Messrs. Veitch and Sons. It was raised between *Cattleya Aclandiæ* and *Lælia elegans*, partaking of the dwarf habit of *C. Aclandiæ*. The plant grows about eight inches high, and produces its leaves in pairs, of a dark green colour, about four inches in length; from between these the flower-sheaths proceed. The sepals and petals are of a glossy purplish crimson-brown, spotted with darker spots; the lip is of a bright crimson, the basal part purple and white. It blooms in June and July, and will be a very useful addition to our collections.—B. S. W.

Nugent Fitch del et Lith

CATTLEYA MOSSIAE

CATTLEYA MORGANÆ.

[Plate 6.]

Native of the United States of Colombia.

Epiphytal. *Stems* short, oblong or somewhat clavate, furrowed when mature, attaining with the leaves about eighteen inches in height. *Leaves* solitary, coriaceous, ligulate-oblong, acute, of a light green colour. *Scape* three to four-flowered, issuing from a terminal oblong compressed bract, which is about two and a half inches long. *Flowers* large and pleasing on account of their delicate colouring, about six inches across when expanded; *sepals* lanceolate, entire, three-fourths of an inch broad and about three inches long, recurved at the tip, white; *petals* spreading, clawed, broadly ovate, fully two inches across, the margin entire at the base and much undulated in the anterior portion, white; *lip* obovate, emarginate, about three inches long, the basal portion entire and rolled over the column, the anterior portion moderately expanded and beautifully frilled, white, like the rest of the flower, with a small blotch of pale magenta near the apex, but not quite extending to the margin, and stained on the disk with an obcordate blotch of clear yellow, passing into orange-yellow in the throat, the deeper portion being veined with yellow lines. *Column* concealed by the convolute base of the lip.

Cattleya Morganæ, *supra.*

One of the most chaste and charming of the summer-flowering *Cattleyas*, and quite distinct in aspect from all others in cultivation. We have great pleasure in dedicating it to Mrs. M. Morgan, of New York, who is a great admirer of this noble class of Orchidaceous plants, and, moreover, has a fine and valuable collection of them. The first specimen we bloomed produced ten flower spikes, and was exhibited at the Manchester Botanical and Horticultural Society's Show in June, 1879; the plant was the admiration of all who saw it, and was on that occasion awarded a **First Class Certificate on account of its distinct and pleasing character.**

Cattleya Morganæ belongs to the same section of the genus as *C. Mendelii*, of which section there are many races or varieties, all of which are beautiful and rich in the colouring of the lip, some having the sepals and petals white, while in others they are of a rosy hue, more or less intense. The plant now before us grows about eighteen inches in height, and has light green foliage with a somewhat drooping habit. It produces its flowers freely, as many as four together on the spike. The sepals and petals are pure white; and the lip is white with a light magenta blotch near the apex, its throat orange colour, the incurved base white, and the edge beautifully fringed. The flowers are produced in May and June, and last from five to six weeks in perfection. It makes a fine subject for decorative purposes, since its pure white flowers form a charming contrast with the high-

coloured varieties of other species of *Cattleya*, of which there are many that come into bloom at about the same time

Cattleya Morganæ requires the same treatment as *C. Mendelii* and *C. Mossiæ*, and will thrive well, grown either in a pot or basket, planted in good fibrous peat and sphagnum moss. It will also succeed on a block suspended from the roof. As in the case of the other *Cattleyas*, it prefers to have all the light possible, but to be just sufficiently shaded to keep off the direct rays of the sun. It must be borne in mind that the plants are found growing naturally on the branches and stems of trees in the forests, where they get some shade, and a free circulation of air, which it is of great benefit to secure, and which should be made a point of the utmost importance in the artificial cultivation of all Orchids, as of most other plants. It would be a great boon to cultivators if our collectors would note down and supply fuller and more precise information on these points, for although of course the natural conditions could not in all cases be carried out to the full extent, yet we should then be better able to imitate them, and thus supply the natural wants of the plants. In giving as much air and light as possible, however, cold draughts must be avoided, which may be effected by fixing the ventilators near the hot-water pipes, and should a cold wind prevail by giving air on the opposite side, always closing the house in good time. In summer water should be freely sprinkled about the tables and paths twice a day, namely, in the morning, and about three or four o'clock in the afternoon. During the dull dark days of winter, very little moisture is required, but on warm days some water may be given to the plants, especially in springtime when the days begin to lengthen. Syringing should be avoided during the winter, except in the case of those on blocks, for a little dewing with the syringe during the day, will not hurt these, as the moisture quickly dries off. The water should always be used in a tepid state.

One of the most important items in Orchid culture is cleanliness. Every plant should be cleansed as soon as any indications of insect life are perceived upon it, since there are Insecticides and other remedies sold to destroy all such pests. Cockroaches, Snails, and Woodlice are very troublesome, and should be well looked after at night when they come out to feed on the young shoots and flowers. Woodlice may be caught by laying down here and there traps, consisting of some moss, at night, or half potatos or turnips scooped out in the centre, and placed about in quiet nooks and corners, or on the pots; the woodlice will harbour under them, and may be caught and destroyed in the morning.

Cattleya gigas.—See note under Plate 2. We have since received a wonderfully grand flower of *Cattleya gigas* from the fine collection of J. S. Bockett, Esq., of Stamford Hill; it is eight and a half inches in diameter; the sepals and petals are of a light rose colour, the lip three inches across, and three in length, of the richest crimson-magenta, margined with a lighter colour, and the throat partly magenta and partly orange. The spike bore four of these flowers.—B. S. W.

Nugent Fitch del et Lith

PROMENÆA CITRINA.

PROMENÆA CITRINA.

[Plate 7.]

Native of Brazil.

Epiphytal. *Pseudobulbs* small, ovate, tetragonal. *Leaves* three to four inches in length, oblong-ligulate, acute, tapering below into a narrow petiole, growing two together at the apex of the pseudobulb, of a pale green colour. *Scapes* two to three inches long, bearing largish ovate bracts in the upper part, and smaller bracts below, and terminated by a solitary deep yellow showy flower, measuring about an inch and a half across; *sepals* obovate, acute, concave or curving forwards at the tip, bright yellow; *petals* yellow, also converging, similar to the sepals in size, form, and colouring; *lip* larger and broader than the sepals and petals, spreading, three-lobed, the two lateral lobes erect, oblong obtuse, rising up on each side of the column, yellow spotted with red on the inner face, the front lobe plane, obovate, apiculate, unspotted yellow, with a prominent crest at its base. *Column* erect, semi-terete, incurved, stained in the front with brownish red.

Promenæa citrina, *Don, Hortus Cantabrigiensis*, ed. 13, 720 (1845); *Loudon, Hortus Britannicus Supp.* 618 (1850); *Williams, Orchid Growers' Manual*, ed. 4, 253, ed. 5, 281; *Rand, Orchids*, 377.

Maxillaria citrina, *Lyons, Treatise on Orchidaceous Plants*, 176.

Promenæa is a small genus of Orchids which was separated from *Maxillaria* about forty years ago (1843) by Lindley, who at the same time also dissociated from it the plants respectively referred to *Warrea*, *Paphinia*, *Lycaste*, and *Scuticaria*. Later on Reichenbach classed *Promenæa* as a section of *Zygopetalum*. Dr. Lindley distinguished the group of species which he referred to *Promenæa*, and which he regarded as fully entitled to generic rank, by the following peculiar features, namely, their spreading sepals, their three-lobed lip, crested or tuberculate at the base, their short semi-terete column, and their ovate glandule with four, that is two double, sessile pollen masses. The species then proposed were *P. stapelioides*, *P. xanthina*, *P. lentiginosa*, *P. Rollissonii*, and *P. graminea*. To these Reichenbach added *P. guttata* in 1856, and *P. microptera* in 1881. Neither of these authorities, so far as we can trace, refer to *P. citrina*; but, according to Don and London, the plant was introduced to our gardens in 1840, though they attribute to it the erroneous habitat of Mexico. Our good friend, Professor Reichenbach, suggests that it is a garden name, sometimes applied to *P. Rollissonii* and sometimes to *P. guttata*; but it has long been recognised as a distinct plant by English and Continental Orchid growers, and is certainly different from the *P. Rollissonii* figured

by Dr. Lindley; nor does it correspond with the description of *P. guttata*, so far as the materials at hand enable us to judge.

This, it will be seen, is a very neat-growing plant, the small tetragonal pseudobulbs slowly creeping over the surface of the blocks on which the plants are grown. It is, moreover, of small stature, the leaves, which grow in pairs from the top of the pseudobulbs, rarely exceeding three or four inches in height, and the flower-scapes attaining even less elevation. The flowers, which are rather large for so small a plant, being of a rich and brilliant colour, become rather effective; and though, of course, they do not compare at all in gorgeous beauty with those of many of the larger-flowered Orchids, they are by no means to be despised even from the decorative point of view; indeed, when grown on a block, as represented in the accompanying Plate, and suspended from the roof of the house, the plant forms a very pretty and distinct object, occupying, as it does, but a small space in which it displays much beauty and attractiveness. The bright orange-yellow flowers are, moreover, very freely produced, and if kept dry, continue for a long time in a fresh and pleasing condition.

There is another species of the same habit, *Promenæa stapelioides*, which comes into bloom about the same time as this, and in which the flowers are spotted with dark purple, so that they appear to be nearly black. The contrast of these two when grown and flowered on the same block is very effective. In the noble collection of Sir Trevor Lawrence, Bart., M.P., we saw a large pan-full of *P. citrina* growing freely, which had a very beautiful appearance, but we prefer to see the plant grown on a block, as in this manner the flowers hang downwards, and are shown off to much greater advantage. There are certain varieties to be occasionally met with, in which the flowers are without spots on the lip, but those which have this latter peculiarity are to be preferred, as the two colours afford a pleasant relief.

Fibrous peat and sphagnum moss seem to suit the plant well when it is grown in either pots or pans; but when cultivated on blocks of wood, a little sphagnum moss only about its roots will be quite sufficient, though if grown in this latter way it requires a more liberal and more frequent supply of water, in order to keep the roots moist. We find the Cattleya-house to suit it best, and we grow it suspended against a wall at the end of the house, where it gets syringed in warm weather. The manner in which its blooms are produced may be seen from our Illustration, which is an excellent representation of the habit of the plant, not only as regards its general manner of growth, but also of its mode of flowering.

CYPRIPEDIUM STONEI

CYPRIPEDIUM STONEI.

[Plate 8.]

Native of Borneo.

Terrestrial. *Stem* wanting, the short erect crowns each furnished with numerous radical evergreen leaves, and emitting stout fleshy roots. *Leaves* distichous (two-ranked), a foot or more in length, leathery or somewhat fleshy, oblong, obtuse, with a short recurved mucro, dark green above, of a paler green beneath. *Scape* dark purple, issuing from the centre of the leaves and furnished with a sheathing bract at its base, about two feet in height, three to four-flowered, the pedicels subtended by green lanceolate acuminate bracts. *Flowers* large, richly-coloured, measuring when spread out four inches in the direction of the sepals, and nine to ten inches in that of the petals; *dorsal sepal* broadly cordate, acuminate, nearly two inches broad, white, marked in front with a bold central, and on each side with two or three curved lateral stripes of deep purple-brown, keeled behind, and there stained with purple-brown; *lateral sepals* (united) ovate-acuminate, with a central and on each side three lateral stripes extending nearly to the base, greenish-white, edged with purple-brown; *petals* set at a right angle to the sepals, one-fourth of an inch broad, five inches long, tapering gradually to the apex, decurved, greenish-white with dark purple-brown veins and spots, becoming wholly purple at the tip, and having near the base a purple margin, and a few scattered marginal purple hairs; *lip* large, prominent, calceoliform, the basal portion unguiculate from the introflexion of the margin, greenish, the apex large, pouch-shaped, like the front of a shoe or slipper, dull purplish-red reticulately veined with darker purple. *Column* white, with a ring of yellow hairs at the base, two-branched, the lower branch three-lobed, the lateral lobes bearing each a small orbicular sessile yellow anther, the terminal lobe forming a large white ovate fleshy disk (abortive third stamen) the upper or stigmatic branch cordate-obovate, convex, whitish, tinged with purple, and fringed at the back and sides with yellow hairs.

Cypripedium Stonei, *Low*; *Hooker*, *Botanical Magazine*, t. 5349; *Van Houtte*, *Flore des Serres*, xvii., t. 1792-3; *Lemaire*, *Illustration Horticole*, ix., p. 107; x. t. 355; *Bateman*, *2nd Century of Orchidaceous Plants*, t. 141; *Jennings*, *Orchids*, t. 12.

This magnificent plant is one of the most beautiful species of the genus *Cypripedium*. Several varieties of it are known, and though they are all good and well worth growing, that which we have selected for illustration is the best and darkest that has come under our notice. The plant from which our figure was taken, bloomed in the Victoria Nursery, and had five flower-spikes, two of which have been in bloom for the past six weeks, and are now as fresh as ever.

Cypripedium Stonei was first flowered by Mr. Stone, gardener to John Day, Esq., of High Cross, Tottenham, after whom it has been named. It was for a long period a very rare species, and, indeed now, though small plants may be purchased for a moderate sum, yet large specimens are scarce and valuable. It makes a fine

show plant, its lasting qualities being a great recommendation to it, both from an exhibition and decorative point of view.

The plant is a native of Borneo, and was introduced to this country by the Messrs. Low, of Clapton. It produces dark green foliage of about twelve or in some of the varieties we have seen as much as fifteen inches in length. From the centre of this tuft of leaves the flower-spikes are produced and rise to a height of about two feet, each bearing three or four of its large slipper-shaped blossoms, which are the most exact representations of a shoe or slipper of those of any of the species, and most completely justify the trivial name of the genus, Lady's Slipper. The sepals are large, white, striped on the veins or nerves, with dark purple, and tinged with yellow; the petals are five inches in length, and are yellowish, streaked and blotched with purple; and the lip is large and of a dull reddish-purple, veined with deeper purple-red. It is of free-blooming habit, and when the growths are strong it produces a flower-spike from each crown, but it takes some considerable time to complete its growth before it sends forth its spikes; indeed, it begins to grow soon after its blossoms have faded. The plant having no thick fleshy bulbs from which to derive support, requires a more continuous supply of moisture than many other Orchids. The roots are coarse and fleshy, and should in consequence be supplied with a stronger soil than is required by some of the other kinds. We find it to thrive best in good fibrous loam, with a small quantity of charcoal, and a little leaf-mould or peat, all being well mixed together, giving the pots good drainage, but not so much as is required in the case of *Cattleyas*, for example. As it is a strong rooting plant, it is best grown in a pot, and should be a little elevated above the rim. We have found the East India house to supply the most suitable atmospheric conditions in which to cultivate it; here it should be placed on the side-tables near the light, but out of the sun. The finest specimen we have seen exhibited was staged by Mr. Child, gardener to Mrs. Torr, Garbrand Hall, Ewell, Surrey, at the South Kensington Show, in 1878.

There is a very distinct variety of this plant called *Cypripedium Stonei platytænium*, of which a figure has been lately published in Mr. Warner's *Select Orchidaceous Plants*, 3 ser., t. 16. Of this form, living plants were till recently only to be found in the collection of John Day, Esq., but they were distributed when that collection was recently dispersed by auction sales, and were purchased at high prices by Baron Schröder and Sir Trevor Lawrence, Bart., M.P., in whose collections they may now be seen. This variety is just like *C. Stonei* in its growth, and the flowers are closely similar, the chief difference being, that the petals are shorter and broader, and resemble those of *C. superbiens.*

LÆLIA PURPURATA WILLIAMSII.

[Plates 9—10.]

Native of St. Catherine's, Brazil.

Epiphytal. *Stems* (or pseudobulbs) clavate-oblong, monophyllous, two feet or more in height, somewhat furrowed when mature. *Leaves* coriaceous, evergreen, narrowly oblong, emarginate, dark green. *Scape* three to four-flowered, issuing from a stout sheathing oblong bract or spathe, four to five inches long. *Flowers* large, and very handsome; measuring eight inches across, of a delicate rose colour, with a purple-crimson lip; *sepals* linear-lanceolate, acute, of a pale rosy tint, pencilled with simple rosy-purple longitudinal lines; *petals* oblong-lanceolate, obtuse, of a beautiful delicate rose colour, pencilled with divergent forked lines of deeper purple; *lip* (labellum) three-lobed, the lateral lobes obsolete, convolute around the column, the front lobe large, broad, and roundish, of a rich dark crimson-magenta, the tip paler and reticulately veined, and the throat yellow, beautifully veined with crimson-magenta. *Column* scarcely reaching to the middle of the convolute base of the lip.

Lelia purpurata Williamsii, *Hort.*; *Williams' Orchid Grower's Manual*, ed. 4, 196; ed. 5, 208.

The species, of which this is one of the finest known varieties, and the genus *Lælia* to which it belongs, together with the neighbouring genus *Cattleya*, are placed by the great Orchidist, Reichenbach, in his amplified genus *Bletia*, so that the *Lælia purpurata* of Lindley, in *Paxton's Flower Garden*, becomes the *Bletia purpurata* of Reichenbach in *Walpers' Annales*, vi. 423. The name of *Lælia* is, however, that which is adopted amongst cultivators of Orchids.

The *Lælia* which we have now to describe, was named many years ago in the *Orchid Grower's Manual*, when it was exhibited at the Crystal Palace and received its present appellation. The plant now represented was flowered at the Victoria and Paradise Nurseries, but has now passed into the select collection of Baron Schröder, of The Dell, near Staines. It was a wonderfully strong plant, and produced two spikes of its highly coloured blossoms, which led all those who saw it in its beauty, to pronounce it to be the finest *Lælia* they had ever witnessed. Our artist has given a good representation of the plant and its blossoms. The club-shaped stems and foliage stood thirty inches in height, and were provided with very strong sheathing bracts whence the flower-spikes issued, each bearing four flowers, which were individually eight inches in diameter. It has bloomed with us in the same style for two successive years. The plant that we flowered some years ago was not so large as that now figured, the reason being that it was not so strong a specimen, and, therefore, not able to produce such fine flowers. This is sufficient

evidence of the advance the plants make before they get to their full strength and vigour. In the variety before us the sepals and petals are of a delicate rose, veined with a beautiful dark tint of the same colour, while the lip is very broad, large, and splendidly coloured, the prominent parts of a rich dark crimson-magenta, paler and veiny at the tip, and beautifully veined with crimson on the yellow ground-colour of the throat. The blooming season is in May and June, the flowers continuing in perfection for three or four weeks, if kept free from damp and in a dry place. We have a house set aside specially for Orchids when in flower, and in it very little moisture is used, by which means we seldom get the flowers spotted or prematurely decayed.

There is another fine form of *Lælia purpurata* with white sepals and petals that are quite flat, not at all recurved; this variety has a rich dark crimson-magenta lip. We exhibited this form with nine flower spikes at the Regent's Park Exhibition, and it produced a grand effect. There are many other fine varieties.

Lælia purpurata when well cultivated is a good looking plant, and even when not in bloom it is an object of attraction, on account of its stately evergreen foliage. It is a native of Brazil, and is found growing on the branches of trees on the outskirts of the forests where the plants get light, and are yet shaded from the burning sun. They are best grown in the Cattleya-house, and will thrive either in pots or baskets, but we find the pot system the best, as they are strong growing plants, and require ample space to bring them to perfection. They are the better for being moved about, especially if they are required for exhibition. There are no more showy Orchids for exhibition purposes, and this is especially true of such varieties as that now before us.

We find that they thrive best in good fibrous peat, and some live sphagnum moss on a part of the surface; when in a growing state the moss keeps them moist without too much water being given whilst they are making their growth. In watering them be careful not to wet the young shoots. The pots should be three parts filled with drainage, which must be formed of broken pots and lumps of charcoal intermixed. The plants must be elevated about two inches above the rim of the pot. The best time to pot them is after they have done blooming just as they begin to make new growths, and before the roots start, when they will soon commence to work into the clean sweet peat. If the plant is in a sufficiently large pot, and the soil about it is sweet and clean, it will not require re-potting, but it will benefit the plants greatly to give them some fresh fibrous peat just before they begin to root, as the old soil is apt to become hard and inert through constant watering. They require to be kept moist during the growing season, but must not even then be soddened with water. In winter only just sufficient must be given them to keep them moist, and to prevent their stems and leaves from shrivelling.

PHALÆNOPSIS AMABILIS DAYANA.

PHALÆNOPSIS AMABILIS DAYANA.

[Plate 11.]

Native of the Eastern Archipelago.

Epiphytal. *Stem* none, or consisting of a short crown furnished with rigid fleshy leaves, and emitting succulent roots, which latter are flattened, and cling to any congenial object with which they come in contact. *Leaves* large, thick and coriaceous, distichous, oblong, obliquely retuse, dark green above, purple beneath. *Scape* long, drooping, issuing from the base of the plant, or the leaf axils, and bearing the large moth-like flowers in a two-ranked raceme. *Flowers* large, pure opaque white, spreading, the lip beautifully coloured; *sepals* oblong-obtuse, white, the lower ones prettily dotted with carmine; *petals* larger and broader, sub-rhomboid, narrowed towards the base, pure white; *lip* furnished with a callus at the base, smaller than the petals, three-lobed, the lateral lobes ovate obtuse, ascending or incurved, yellowish along the antical margin and dotted with carmine-crimson near the base, the central lobe trowel-shaped, carmine-crimson across the base and at the edge, and marked with a central crimson stripe; the lip is concave, bearing at the narrowed apex two incurved twisted white cirrhi. *Column* semi-terete, recumbent on the ovary.

Phalænopsis amabilis Dayana, *Hort.*

The genus *Phalænopsis* belongs to the tribe *Vandeæ*, which is distinguished amongst those with waxy pollen-masses, by having these attached to a distinct caudicle, united to a deciduous stigmatic gland. It no doubt comprises several of our finest Orchids, which are prized no less on account of the graceful development of their inflorescence than for the attractive white blossoms of the more familiar species. Our drawing of the charming *Phalænopsis amabilis Dayana* here figured, was taken from a fine specimen in the collection of W. Lee, Esq., of Downside, Leatherhead, who was kind enough to allow us to publish an illustration of it. The variety is very rare; indeed, we believe this is the only specimen known to be in cultivation in this country. It was named in compliment to John Day, Esq., of Tottenham, from whose collection it was obtained by Mr. Lee. From the markings about the base of the lip it will be seen to be very distinct, though it is no doubt a form of *P. amabilis*, with which it agrees in foliage and in the general character of the flowers, but differs in the distinct markings just referred to. The plant grows to about the same size as *P. amabilis*.

There is at Downside a grand collection of *Phalænopsids*, which are especially well managed by Mr. Woolford, the gardener. They are great favourites with Mr.

Lee, and he has built a house to meet their special wants. This is undoubtedly a good plan to adopt where there is such a fine and comprehensive set of plants as are to be found in this establishment, since they require different treatment to most other Orchids. They have thick fleshy leaves, and the stems of the plant are also fleshy, while, unlike many Orchids, they have no thick pseudobulbs from which to derive support; hence it follows that they require more moisture than many others. We do not, however, agree with giving them so much as we often see supplied. One great advantage of having a separate house for them is that their individual treatment and wants can be more carefully studied and more exactly met.

We have seen *Phalænopsids* grown well amongst other East Indian Orchids. For instance, we exhibited a plant so grown of *Phalænopsis grandiflora* for ten successive years at the Chiswick and Regent's Park Exhibitions, and at several shows during each year, and it generally bore from sixty to seventy blossoms. This was the variety imported from Java, which we consider the best, as it produces more flowers than the variety from Borneo. We see that growers now-a-days are obliged to put several plants together in order to make a specimen fit for exhibition. There were others who about that time also exhibited these large plants, and, amongst them Mr. Kinghorn showed at Chiswick a wonderful specimen, bearing the best flower-spike we have ever seen.

Phalænopsis amabilis Dayana requires the same treatment as *P. grandiflora* and *P. amabilis*, and will do either in a pot, basket, or pan, suspended from the roof. It will also thrive on the side stages, but in this case requires to be elevated so that the roots can hang free, for they are abundant rooting plants. If suspended from the roof the plants have more room to throw out their thick fleshy roots, and in this way they approach nearer to the manner in which they grow in their native habitats, for they are found on the branches and stems of trees, where they obtain a free circulation of air. When thus suspended they get without restraint the fresh air that circulates through the house. They can also be cultivated on blocks, but under these circumstances they will require to be more freely supplied with moisture. These are plants that like plenty of light, but they must be shielded from the sun by shading. The best material to grow them in is sphagnum moss, with good drainage, and they require to be kept moist all the year round. In warm weather they of course require more than in winter, when just a sufficient quantity to keep the moss in a moist condition will be all that they will need. It is imperative never to allow water to reach the heart of the plant, for that will sometimes induce it to rot, and will often cause the leaves to go spotted.

The plants must, of necessity, be kept free from insects. Sometimes the thrips will attack them, but this should be cleaned off. To be thoroughly successful with Orchids they require constant watching. Cockroaches are a great pest to all those that throw out thick fleshy roots, which they injure by gnawing them off, thereby weakening the constitution of the plant. J. S. Bockett, Esq., of Stamford Hill, has one of the finest grown collections of *Phalænopsis* we have ever seen, but this, of course, has been in process of formation for years, and the plants have become large established specimens.

Nugent Fitch del. et lith.

ONCIDIUM GARDNERI.

ONCIDIUM GARDNERI.

[Plate 12.]

Native of the Organ Mountains of Brazil.

Epiphytal. *Pseudobulbs* oblong-ovate, furrowed, about two inches in height, dark green, purplish beneath. *Leaves* oblong-lanceolate, acute, coriaceous, about six inches long, growing two together from the apex of the pseudobulbs. *Scape* one and a half foot high, including the panicle of handsome flowers, lateral, that is, springing from the base of the pseudobulbs. *Flowers* showy, of medium size, deliciously fragrant; *sepals* oblong, acute, the lateral ones semi-connate; *petals* twice as large as the sepals, roundish in outline, clawed at the base, the edges undulated, and as well as the bars across the sepals of a light chestnut or bronzy brown colour with a narrow margin of pale yellow; *lip* large, three-lobed, the middle lobe large, transversely emarginate, bright yellow, with a belt of confluent parallel oblong chestnut brown blotches just within the margin, the lateral lobes auriculæform, obsolete, yellow; the crests of the lip consist of two pairs of tubercles with the intermediate space warted. *Column* furnished with dwarf roundish wings.

Oncidium Gardneri, *Lindley, London Journal of Botany*, ii., 662; *Id. Folia Orchidacea*, art. Oncidium, 19; *Reichenbach fil.*, in *Walpers' Annales Botanices Systematicæ*, vi. 728.

This charming Orchid is very nearly related to *Oncidium curtum*, *O. prætextum*, and *O. amictum*. It belongs to an extensive genus of Vandeous Orchids, many of the species of which are exceedingly beautiful on account of the brilliancy of their flowers, which are mostly of a bright yellow colour, often prettily spotted, and generally produced in graceful spikes or panicles. No collection should be without some of the best and most ornamental of them. The figure which we now publish represents a very charming Brazilian species, one of the best forms of the plant we have seen. Our drawing was made from a specimen in the select and varied collection of W. Vanner, Esq., of Chislehurst, who was kind enough to permit our artist to avail himself of it. This collection occupies several houses which are respectively filled with species belonging to the different groups or classes, and among which are some very rare specimens, all well cultivated by Mr. Milford, the gardener, who, for many years has been a successful grower of Orchids.

Oncidium Gardneri is a compact growing plant, furnished with dark green pseudobulbs, which are from two to three inches in height. The foliage is also dark green in colour, and about six inches in length. The flowers are very freely produced in branching spikes or panicles, and are generally developed in June and July, lasting for several weeks in perfection. The sepals and petals are brown, narrowly

margined with pale yellow. The lip is large, of a bright golden-yellow colour, margined with bright brown oblong parallel blotches. The flowers, moreover, are deliciously scented. There are many varieties of this plant, all of which are worth growing, since they take up but little space, and when grown in quantity, produce a good effect. We saw about fifty spikes of the different varieties, some in bloom, and others showing, in the collection of C. G. Hill, Esq., of Arnot Hill, near Nottingham, and we shall not soon forget the effect produced, as the group of plants appeared to be one mass of bloom. By cultivating plants of this character space may be economised, since they grow as freely on blocks as in baskets. We also find them to thrive well in small pans suspended from the roof of the Cattleya-house or in any situation affording them the same temperature, with very slight shading from the sun. They are best grown near the glass, so that they may get all the light possible. As a root medium, a mixture of good sphagnum moss and fibrous peat suits them best, but the plants must have good drainage, since they must be kept moist during the growing season, though when at rest a more limited supply will suffice—just sufficient being given to keep the bulbs plump, for on the other hand, it is not a plant that likes to be dried up. The bulbs sometimes shrivel when they flower too freely; if this is observed do not allow the blossoms to remain too long on the plants, as they will keep a good time in water when cut from the plant. Being of a graceful character they are well adapted for the decoration of drawing-room stands, in which, if intermixed with foliage and other flowers, they help to produce a very charming effect. Indeed no flowers are so useful as Orchids for decorative purposes, as they last so long when cut.

Lælia Dominiana rosea.—This is the finest hybrid *Lælia* that has come under our notice. It is the result of a cross between *Cattleya Dowiana* and *C. exoniensis*, and the parentage is very evident in the novel form thus obtained. The lip is like that of *C. Dowiana*, of a rich purple-crimson, crisped at the margin; the sepals and petals are of a pale lilac colour. It is a most beautiful *Lælia*, and is named in honour of Mr. Dominy, who has been most successful in raising seedling Orchids. There have been many wonderful hybrids brought out by the Messrs. Veitch and Sons, through the indefatigable exertions of Mr. Dominy, who has long been known as one of the oldest and most successful of Orchid growers, and whose name will be kept in remembrance as long as Orchids are cultivated.—B. S. W.

DENDROBIUM SUAVISSIMUM.

DENDROBIUM SUAVISSIMUM.

[Plate 13.]

Native of Burmah.

Epiphytal. *Stems* (or pseudobulbs) about a foot long, cuneately-fusiform, tapering below into a longish stalk-like base, bluntly angulate, bearing one or two pairs of leaves at the top, and invested below with close ovate membranaceous bracts. *Leaves* somewhat coriaceous, oblong-ligulate, cuneate at the base and acute at the apex. *Flower-spikes* ten to twelve inches long, bracteate at the base, terminal or nearly terminal, produced freely on the two-year-old stems. *Flowers* large, showy, numerous, of a brilliant yellow; *sepals* ligulate acute, bright golden yellow; *petals* broader, cuneately-oblong, obtusely-acute, of the same colour as the sepals; *lip* (labellum) deep bright yellow, marked on the disk with a broad curved band of rich dark sanguineous purple, almost black, cucullate, cuneate-oblong at the base, where it is folded over the column, roundish and emarginate in front, undulate and ciliolate at the margin, densely asperulous with erect acute papillæ forming a close crispy covering over the surface.

Dendrobium suavissimum, *Reichenbach fil.*, in *Gardeners' Chronicle*, n.s., i. 406; v. 756.

This fine Dendrobe, of which Reichenbach remarks:—"I believe it is one of the best *Dendrobia* ever imported," was introduced in 1873 by Mr. Low, of Clapton, as recorded in the *Gardeners' Chronicle* for 1874 (n.s., i. 406), where it was first described. It is again referred to in the same publication in 1876 (n.s., v. 756), where the German Professor remarks:—"The species stands indeed, as has been stated before, close to *Dendrobium chrysotoxum*. The flowers are smaller, the fringe is made by much shorter papillæ, the chin is shorter, the petals are narrower, the lip does not expand to an open mass, but its lateral parts keep bent over the base, thus forming a cucullate body so as to allow the beautiful dark blackish spot to be seen, and which contrasts so well with the deep yellow of the flower. There are also a few blackish streaks on each side of the base of the lip."

Dendrobium suavissimum is one of the most beautiful species of the yellow-flowered section of this vast genus, and one that is much admired and sought after by Orchid growers. The accompanying plate is a good representation of the plant, and from this it will be seen that it is one of the most attractive of summer-flowering Orchids. Our sketch was taken from a specimen exhibited by us during the present year, at the Royal Botanic Society's Garden in the Regent's Park.

Formerly this was a very rare plant, but within the last few years it has been sent home in considerable quantities by collectors, and it has in consequence become

comparatively cheap. In growth it resembles *Dendrobium chrysotoxum*, but the flowers are much more showy; in *D. chrysotoxum* they are wholly yellow, whereas in this species there is a large sanguineous purple blotch on the lip, forming a striking contrast to the rich golden yellow of the sepals and petals; in addition to this they are sweet-scented. The plant is of free-flowering habit, and when well-grown produces finely-developed flower-spikes. We have seen as many as three spikes proceeding from a single stem.

In habit of growth *Dendrobium suavissimum* is very compact. The stems or pseudobulbs are about a foot in height, and furnished with one or two pairs of dark green leaves at the apex. The flower-spikes proceed from the tops of the two-year-old bulbs, and average from ten to twelve inches in length. The stems will sometimes produce spikes for several years in succession. The flowers last from two to three weeks in perfection if kept from damp.

Like other Dendrobiums, this species is found growing on the trunks and branches of trees in positions where it gets plenty of light and air. With us it thrives well grown in a basket suspended near the roof, so as to obtain all the light and air possible; the bulbs thus become well matured. The best material for growing it in is sound sweet fibrous peat, with a good supply of drainage. The plants should be watered liberally at the roots during the period of growth, which is after they have done blooming. The temperature that suits them best is that of the East India-house while they are making their growth; but when the growth is completed very little water should be given them until they begin to show their spikes in spring, when it may be increased, as it will assist them to produce stronger spikes. The plant is propagated by division; two or more old bulbs should be taken off with a young growth in front. Insects should be well looked after, and when found be speedily removed.

Nugent Fitch. lith

TRICHOPILIA SUAVIS ALBA.

TRICHOPILIA SUAVIS ALBA.

[Plate 14.]

Native of Central America.

Epiphytal, *Pseudobulbs* roundish-oblong or obcordate, thin, *i.e.*, very much compressed, clustered, monophyllous. *Leaves* broadly oblong, acute, leathery in texture, almost sessile, of a pale green colour. *Scapes* radical, two to four-flowered, pendent. *Flowers* large, showy, and fragrant, each emerging from the axil of a thin ovate bract. *Sepals* linear-lanceolate, acute, somewhat undulated, spreading, and, as well as the similarly-formed *petals*, of a pure white colour; *lip* large, rolled up closely at the base, suddenly expanded upwards so as to become funnel-shaped, and then spread out into a large oblique limb, which is three-lobed, with the edges wavy and crisped, the middle lobe larger, slightly deflexed and emarginate or bilobed. *Column* elongate, terete, bearing at the back of the anther a hood of three fimbriated lobes.

Trichopilia suavis, *Lindley*, in *Paxton's Flower Garden*, i. 44; 53, t. 11; *Hooker*, *Botanical Magazine*, t. 4654; *Van Houtte*, *Flore des Serres*, viii., 761; *Lemaire*, *Jardin Fleuriste*, iii. 277; *Reichenbach fil.*, in *Walpers' Annales Botanices Systematicæ*, iii. 553, et vi. 681.

Var. alba: flowers pure white, the lip with a yellow blotch in the throat.
Trichopilia suavis alba, *Hort.*

This plant belongs to a small genus of Vandeous Orchids, some of the species of which are exceedingly pretty, and well worthy of a place in every collection. Dr. Lindley calls *Trichopilia suavis* "a delicious Orchid," and says that "the flowers emit the most delicate odour of hawthorn." The fragrant and richly spotted flowers make it a great favourite amongst growers, and no doubt it is one of the best and most showy of the species yet known. The variety *alba*, of which we have now the pleasure of publishing an authentic figure, the first which has appeared, is new to cultivation, and is also extremely rare. Our plate was prepared from a specimen which flowered in the fine collection of Dr. G. Boddaert, of Ghent, Belgium, who kindly allowed us to have a drawing made from it.

Trichopilia suavis alba was imported, with the typical *T. suavis*, and is a compact evergreen plant, with foliage attaining from six to ten inches in height, and three inches in width, and of a light green colour. The pendent flower-scapes are produced from the base of the bulbs, and bear two or three, or sometimes four, flowers, which thus hang over the sides of the pan or basket in which the plant is cultivated. When suspended from the roof of the house they thus have a very

charming appearance. The sepals and petals are pure white; the lip is white, with a pale yellow stain in the throat. The plant blossoms during May and June, and lasts about two weeks in perfection. We have flowered this variety during the present year, and it was very much admired by every one who saw it.

Trichopilia suavis alba was exhibited by J. S. Bockett, Esq., of Stamford Hill, at one of the meetings of the Royal Horticultural Society, and was awarded a First Class Certificate of Merit.

The Cattleya house is the best position for the plant, but it should be placed at the coolest end. It will flourish either in a basket or pot, in a compost of fibrous peat, with good drainage, but it must be well elevated above the rim, so that the flowers may hang down according to their natural habit. Propagation is effected by division of the plant after blooming; two or three bulbs should be severed from the original plant, or more if a larger specimen is desired.

Aërides odoratum majus.—This fine old Orchid was shown by Mrs. Arbuthnot at the Chislehurst Exhibition, on the 16th of July, and in this case it was a most wonderful example of good cultivation. The plant was one mass of its beautiful racemes of flowers, about fifty in number, many of them measuring fifteen inches in length. The flowers are white, tipped with pink, and are produced in long graceful spikes which overhang the foliage and produce a most charming effect. The perfume given off by this variety is very delightful, and was in this case most refreshing to those who passed by, many of whom wondered where the pleasant odour came from, as it was shown among the stove and greenhouse plants. This plant was two and a half feet in diameter, and three feet in height. Great credit is due to Mr. Mitchell, the gardener, for his skill in cultivating so fine a specimen. We often wonder why this plant is not more popular at our exhibitions, especially as it is easy to grow, taking very few years to make a good specimen, and being purchasable in small sizes for a few shillings. When not in bloom, it is, moreover, an attractive plant.—B. S. W.

Nugent Fitch del et lith

VANDA PARISHII.

VANDA PARISHII.

[Plate 15.]

Native of Moulmein.

Epiphytal. *Plant* evergreen, dwarf. *Stem* a span high, stout-growing, densely leafy. *Leaves* distichous, broadly ligulate-obtuse, with an unequal bilobed apex, very stout and fleshy in texture. *Scape* stiff, erect, bearing a spike of several showy blossoms. *Flowers* large, distinct in character, prettily spotted; *sepals* and *petals* cuneate-oblong, acute, somewhat undulated, of a greenish-yellow colour, decorated with numerous round reddish-brown spots, white inside at the base; *lip* furnished with linear-ligulate auricles at the base, and produced into a short gibbous spur, white, with a pair of orange-coloured stripes, the larger anterior part violaceous, rhomboid, gibbous below the apex, with a keel along the median line, and a violet-coloured conical callus at the base. *Column* white, the caudicle ligulate, the glandule triangular.

Vanda Parishii, *Reichenbach fil.*, in *Gardeners' Chronicle*, 1870, 890.

This glorious thing, as Professor Reichenbach calls it, was first discovered by the Rev. C. Parish in 1862, and then lost sight of, but was rediscovered in 1870, from which discovery, we presume, the first plants were obtained by Mr. S. Low, of the Clapton Nursery; since then we have received living plants of it on several occasions, and the plant now figured was from one of these importations. It is a small and distinct growing *Vanda*, and is well worthy of a place in every collection on account of its compact habit of growth, which resembles that of a *Phalænopsis*. The Vandas are for the most part large growers, but, as will be seen from the accompanying figure, *Vanda Parishii* is an exception to the general rule. Our plate was prepared from a plant which bloomed in the collection of the Right Hon. J. Chamberlain, M.P., of Birmingham—a gentleman who is making a grand collection of Orchids, and is a great admirer of them. The plant above referred to was a well-grown specimen, bearing a good spike of flowers.

The leaves are about eight inches in length by four inches in breadth, and of a lively green colour; and the flower-spike reaches from ten to twelve inches in length, the flowers being as large as those of *Vanda gigantea* and *V. lissochiloides*. The sepals and petals are greenish-yellow, freely spotted with reddish-brown; the base of the lip, which is keeled, is white, the front lobe violet-mauve, faintly margined with white. Altogether it is a very distinct species, and is very strongly scented, with a peculiar odour; it lasts for several weeks in bloom.

Vanda Parishii requires about the same treatment as other Vandas, and should be grown in the East India-house, in sphagnum moss, with plenty of drainage. It

would appear never to attain more than about a foot in height, being unusually short and stout in growth. It is best grown in a basket or pot suspended from the roof, and should be well shaded from the sun. It revels in a good supply of water during the growing period, which extends over summer and autumn; but in winter only just sufficient water should be given to keep the moss damp, for if allowed to become over-dry it will shrivel, having no pseudobulbs to support it. Thrips and scale are sometimes found on this plant; these should be diligently searched for and destroyed, as the leaves, being of a fleshy nature, would otherwise soon become disfigured by the onslaught of these pests.

Orchids at Arnot Hill.—We append a few notes on the Orchids at Arnot Hill, near Nottingham, the residence of C. G. Hill, Esq., a gentleman who is forming a fine collection of these plants, and one which we have no doubt will in time take a foremost rank, as Mr. Hill is specially fond of good Orchids, and intends to grow only those which are most worthy of cultivation. There is a fine range of houses built to suit the cool, the intermediate, and the East Indian kinds, and the arrangements are all that can be desired, having been made the chief study. Of the genus *Odontoglossum*, we found at the time of our visit, some few months since, there was a large collection, including some hundreds of plants of *O. Alexandræ* and *O. Pescatorei*, amongst which were many fine specimens. There was also a fine lot of Masdevallias; the Bull's-blood variety of *M. Harryana* was in splendid condition, and there were many other fine varieties. We noticed a house full of *Oncidium Gardneri* mixed with *O. prætextum* and *O. curtum*, the plants bearing about fifty spikes, the greater part of which were in bloom, the flowers deliciously fragrant, and presenting a beautiful picture, as the bright yellow lip with its definite margin of brown shows off the flowers to great advantage. In the Cattleya house there were many fine plants which were rooting and growing well. We noticed a good specimen plant of the new *Cattleya Trianæ Russelliana*, also of the rare *C. exoniensis*, of the beautiful *C. Reineckiana*, of the best variety of *C. labiata* showing flower-sheaths, and many others. *Oncidium incurvum* was beautifully in bloom, and with its snow-white lip had a very pretty appearance.

In the next house we noticed three good plants of *Dendrochilum filiforme* finely in flower; one plant had fifty of its graceful spikes of yellow blossoms hanging among the foliage, and the other two plants were equally good.

In the adjoining house there were many fine East Indian Orchids. We noticed four plants of the rare *Aërides Schröderi*, and a wonderful variety of *A. Lobbii* in full bloom, with a fine branching spike—one of the best we have seen, and one of which we hope at some future time to furnish our readers with a figure. There was a good collection of East Indian Orchids being got together, and from the appearance and health of the young stock they seemed likely to thrive well. We were glad to see this class of Orchids so well appreciated, as there can be no doubt that the East Indian kinds are among the richest and finest of the family, and they will flourish in a lower temperature than most people imagine.—B. S. W.

Augent Fitch del. et lith

CATTLEYA GUTTATA LEOPOLDII.

CATTLEYA GUTTATA LEOPOLDII.

[Plate 16.]

Native of the Island of St. Catherine, Brazil.

Epiphytal. *Stems* (or pseudobulbs) elongate, fusiform, many-jointed, two to two and a half feet in height, bearing a pair of leaves at the apex. *Leaves* broadly-oblong obtuse, dark green, coriaceous. *Scape* terminal, issuing from a short ovate acute ancipitous spathe developed between the leaves on the more vigorous stems, and bearing a many-flowered raceme, with small lance-shaped bracts. *Flowers* fleshy, in dense racemes, "sometimes as large as a man's head;" *sepals* cuneate-oblong acute, the lateral ones subfalcate, of a light cinnamon or orange-tinted brown, spotted thickly with crimson; *petals* similar in form and colour, but rather broader and wavy; *lip* three-lobed, the lateral lobes semi-ovate, acute in front, rolled over the column, the middle lobe cuneate-flabellate and bilobed, of a bright magenta colour, the disk tuberculate with lines of elevated papillæ.

Cattleya guttata Leopoldii, *Linden and Reichenbach fil., Pescatorea*, t. 43.

Cattleya Leopoldi, *Hort. Verschaffelt; Lemaire, Illustration Horticole*, ii. 69.

Epidendrum elatius, var., *Reichenbach fil., MSS.; Id.*, in *Walpers' Annales Botanices Systematicæ*, vi. 319.

This noble plant is remarkable for the large mass of richly-coloured fragrant blossoms which terminates the flower-scape, and is very much superior to the old *Cattleya guttata*, which was introduced to our collections some fifty years ago, and of which a fine figure was published in the *Transactions of the Horticultural Society*, ix. t. 8. The variety *Leopoldii* differs from the type, in its much larger flowers, and in the rich olive or reddish-brown colour of its sepals and petals, which are freely spotted with dark crimson. *C. guttata Leopoldii* is, moreover, of much more recent introduction than the type, having been imported to the gardens of Belgium by M. Ambroise Verschaffelt, through his collector, M. Devos, in 1850. It was by him dedicated to his Majesty the late King of the Belgians. As will be seen from our illustration, it is a very great improvement on the typical form. We are indebted to H. Shaw, Esq., of Buxton, for the opportunity of securing our figure, the plant having flowered in his choice and valuable collection during the month of August in the present year, producing a spike of eleven fine flowers, each measuring three inches in diameter. This must be regarded as a very valuable Orchid, since it blossoms during the late summer months, when flowers are comparatively scarce in our Orchid houses; while for exhibition purposes, again, it is of great value.

The plant now before us is a strong grower, like *Cattleya guttata*, and sometimes produces as many as thirty flowers in a spike. A plant bearing a spike of this noble character was exhibited some years ago by Mr. Page, then gardener to the late

W. Leaf, Esq., of Streatham, and was a most wonderful object. The stems grow from twenty to thirty inches in height, and are furnished at the apex with a pair of broad leathery leaves of a dark green colour. It produces its flowers from the top of the bulb after it has finished its growth. The sepals and petals are of a lively cinnamon-brown, spotted with rich deep crimson; while the lip is of a bright magenta, with the basal lobes of a paler rose colour. The blossoms last some two or three weeks in perfection.

Cattleya guttata Leopoldii requires the same treatment as that recommended for other Cattleyas under Plates 3 and 6. Being a tall-growing plant, pot culture will be found to suit it best.

M. Massange's Orchids.—Château de Baillonville, the country seat of Mons. D. Massange de Louvrex, is situated in the Ardennes, about 6 miles from Marche, and some 80 miles from Brussels. The collection of Orchids at the Château is very large, one of the finest in Belgium. In the house devoted to East Indian Orchids there are some grand specimens of Vandas, Aërides, and Saccolabiums. During a visit in July last, we noticed in bloom a very fine variety of *Vanda tricolor planilabris*, the flowers of which were very large, with fine broad sepals and petals, the markings being well defined and the colour bright. Here was also a grand plant of *V. Cathcartii*, about four feet high, in perfect health. Cypripediums are, moreover, treated with great success in this house; indeed, we noticed some plants of *C. caudatum* with extraordinary growths upon them, one plant having leaves as much as eighteen inches long, and quite distinct in the character of its growth, being almost erect. In the Cattleya house were some fine examples of *Cattleya labiata*, the true autumn-flowering variety; also *C. Warnerii* in abundance, and *C. Mendelii*. *Zygopetalum Gautieri*, the best variety, with dark blue flowers, was also open. *Calogyne Massangeana*, had a spike of twenty-three flowers; this species is a grand subject for treating as a basket plant, the spikes being of a drooping character; we have seen it bearing as many as twenty-seven flowers on a spike. There were, moreover, in the same house, some enormous plants of *Cattleya Trianæ*, marvels of cultivation, with good specimens of *Lælia elegans*, *L. anceps*, *L. Perrinii alba*, *L. elegans prasiata*, *L. Stelzneriana*, *Cattleya Dowiana*, &c., all in perfect health, and doing well. In the Odontoglossum houses there was not much in flower, but the plants were looking remarkably well and making enormous bulbs. Here we noticed the largest plant of *Restrepia antennifera* we have ever seen; the plant probably measured as much as eighteen inches across, and had some hundreds of leaves. Masdevallias were well represented, and there were some good varieties in flower: amongst others was a grand plant of *M. macrura*, as well as *M. Houtteana* and *M. trochilus*, forming good specimens. We saw a splendid specimen of *Odontoglossum citrosmum roseum* with nine flower-spikes, a marvel of good cultivation. Altogether, we believe, this is the most select collection of Orchids in Belgium, and great credit is due to Mr. Wilkie, the gardener, for the way in which he cultivates his plants; his employer, however, spares no expense in providing the appurtenances necessary to good cultivation.—H. Williams.

PESCATOREA KLABOCHORUM.

PESCATOREA KLABOCHORUM.

[Plate 17.]

Native of Ecuador.

Epiphytal. *Stems* none or consisting of a short crown or growing point from which the leaves and stout fibrous roots proceed. *Leaves* tufted, numerous, imbricated at the base, erect or spreading, lanceolate, acute, twelve to fifteen inches long, and about two inches wide, deep green above, paler beneath, thin but firm in texture. *Flowers* large and showy, measuring about three inches in diameter, the peduncles springing from the axils of the lower leaves; *dorsal sepal* obovate-oblong, acute, about an inch and a half long, white in the lower half, and of a velvety chocolate purple in the upper portion; *lateral sepals* more distinctly oblong, being less narrowed at the base, acute, and attached obliquely to the chin of the flower; *petals* obovate-oblong, like the dorsal sepal, acute, white, deeply tipped with chocolate purple; *lip* distinctly stalked, with a sharply incurved claw, normally trowel-shaped when spread out, three-lobed, the lateral lobes prolonged, acute, and incurved so as to meet the base of the column, the middle lobe obtusely cordate, sulcate, with the edge recurved so as to bring it to a narrow triangular outline; it is white, with the whole surface, except the margin, covered with short purple-tipped papillæ, or 'styliform processes,' ranged in combined lines; on the *disk* is a large semicircular lamellate ruff or frill, extending to the base, and consisting of numerous (about 20) erect folds or lamellæ, which are white below and of a deep rich purple along the edge of the folds, forming a series of stripes extending inwards to the base of the lip. *Column* stoutish, angulate on both sides at the base, semiterete, dark purple, three-fourths of an inch long, projected over the basal ruff.

Pescatorea Klabochorum, *Reichenbach fil.*, in *Gardeners' Chronicle*, n.s. xi., 684; xii., 167; *Paxton's Flower Garden*, re-issue, t. 21.

Zygopetalum Klabochorum, *Reichenbach fil.*, in *Gardeners' Chronicle*, n.s. xi., 684.

Until quite recently but few species of *Pescatorea* were known in cultivation. Latterly, however, several new ones have been introduced into this country, and Orchid cultivators have now more numerous opportunities of admiring the beautiful plants which are referred to this genus.

Pescatorea Klabochorum was introduced from Ecuador, by Franz Klaboch, a nephew of Herr Roezl, one of the most successful plant collectors of our time, and is named in commemoration of him and his surviving brother, also a traveller and collector. The first plants, brought home some four or five years since, were purchased by Messrs. James Veitch and Sons, of Chelsea, and were distributed by them; but since then it has been several times re-introduced, and is now to be found in numerous collections. Several varieties have been already noticed. It appears to have been first flowered in 1878 in England, by John Day, Esq., and in Scotland

by J. Gair, Esq., and again in 1879 in the noble collection of Sir Trevor Lawrence Bart., M.P. The drawing reproduced in our plate was prepared from a plant which flowered last August in our own collection, and represents a very fair variety. A fine variety, which bloomed with W. Cobb, Esq., of Silverdale Lodge, Sydenham, is figured in the revised edition of *Paxton's Flower Garden.*

The treatment which we find to suit this plant the best is to place it in the Cattleya-house at the cool end. It should be potted in a compost of peat and sphagnum moss, with a few lumps of charcoal added; and a liberal supply of water should be given during the growing season, this being gradually decreased as the winter approaches. The plants should be well elevated above the rim of the pot, so as to allow any superfluous water to drain away from the crown.

We do not find that noxious insects attack the species of *Pescatorea* in any great degree. The scale will sometimes take up its abode on the young growths, but when found this can easily be removed by the use of a brush or sponge and water.

We saw a fine lot of Pescatoreas and Bolleas in splendid condition at Falkirk in September last, in the collection of J. Gair, Esq. These plants are not so easy of cultivation as many Orchids, their treatment not being generally so well understood; but this was not the case in this instance, for they were perfect plants, well cultivated, and blooming freely. We noticed more especially a fine species named in honour of Mr. Gair, which bears the richest coloured flowers we have ever seen; of this we hope to give our readers an illustration when it flowers next year. These plants were grown at the end of a house where a mixed collection of Orchids, such as Cattleyas, Dendrobiums, Aërides, and Saccolabiums, were doing well. Being a large house, the plants could be treated according to their several requirements, whereas in a small house the varied collection would not be found to do so well.

Vanda cœrulea.—This *Vanda*, whose flowers are of such a distinct and beautiful colour, is no doubt one of the finest Orchids in cultivation. We have had the pleasure of seeing the plant we are about to mention for two successive years blooming in great perfection in the collection of the Marquis of Lothian, at Newbattle, Dalkeith. The plant, which stands one foot in height, and is well furnished with good foliage, produced two spikes of its charming flowers, fourteen on each spike. The sepals and petals are of a delicate lavender blue colour, barred and veined with a deeper tint of the same; the lip is small, and of a dark violet colour. It was a most showy object, and the amount of bloom upon it was extraordinary, considering the small size of the plant. We have seen larger specimens, but never one that has pleased us so well. Great credit is due to Mr. Priest for producing such a plant, which is increasing in size, and in the number of its flowers every year. There is a good collection of Orchids being formed at this place, where the houses are suitable for their cultivation, and the plants are well looked after and cared for.—B. S. W.

BURLINGTONIA CANDIDA.

BURLINGTONIA CANDIDA.

[Plate 18.]

Native of Demerara.

Epiphytal. *Pseudobulbs* elliptic-oblong, compressed, monophyllous. *Leaves* evergreen, broadish oblong, acute, somewhat channelled. *Racemes* pendulous, issuing from the base of the pseudobulbs, three to five-flowered. *Flowers* two and a half inches long, white, semitransparent, with a delightful violet-like fragrance; *sepals* projected forwards in the plane of the lip, the *dorsal* one obovate-oblong, emarginate, the *anterior* one bifid, linear-oblong, about half the length of the lip, curved sharply forwards, and channelled so as to closely invest the spur of the lip; *petals* parallel with the sepals and lip, obovate, oblique, the base encircling the column, spreading at the apex; *lip* parallel with the column, with a channelled claw, dilated and bilobed in front, cuneate below, decorated in the centre with a yellow bar, the disk furnished with four or five yellowish lamellæ on each side, of which the anterior ones are longer, the spur short, enclosed in the anterior sepal. *Column* smooth, slender, clavate, with two fleshy teeth at the apex.

Burlingtonia candida, *Lindley, Botanical Register*, t. 1927; Id. *Paxton's Flower Garden*, i. 158; *Rand's Orchids*, 179; *Floral Magazine*, t. 548.

Rodriquezia candida, *Bateman in litteris; Reichenbach fil.*, in *Walpers' Annales Botanices Systematicæ*, vi., 695.

The genus *Burlingtonia* was dedicated to the amiable and accomplished Countess of Burlington, and contains a few small-growing but very beautiful species, which come mostly from Brazil. The plant now under notice, which was the earliest introduction, and the type of the genus, was imported from Demerara, in British Guiana, so long since as 1834, by James Bateman, Esq., now a veteran in the study and cultivation of Orchids. It is consequently well-known to the growers and collectors of this class of plants.

As a subject for growing in a basket suspended from the roof, this species has few, if any, equals. When grown in this way, the pendent spikes of white flowers hanging over the sides of the basket produce a charming and distinct appearance.

The plant is compact-growing, and, like all the species of *Burlingtonia*, is evergreen. The pendent flower-spikes are produced from the sides of the pseudobulbs, and each bear from four to six flowers, which are white, marked with yellow in the throat, and have a slight but pleasant odour of violets.

Burlingtonia candida should be grown in the Cattleya-house, in a basket or pan, suspended from the roof. Sphagnum moss, with a good drainage composed of crocks, is the best material for its roots, and the bulbs should be well elevated above the

rim of the pan or basket. This plant delights in a plentiful supply of water at the roots—in fact, it should never be allowed to get dry, as it requires but little rest. It is propagated by division of the pseudobulbs.

Few insects attack this plant. The scale is the most frequent intruder, and this is easily removed by the use of a sponge and clean water.

Ferguslie House, Paisley.—We have been in the habit of visiting the gardens of T. Coates, Esq., for many years past, and have always been surprised to see the Orchids grown by Mr. Thompson, the gardener who has charge of them. There is no house specially devoted to the cultivation of this class of plants, but they are grown in different houses intermixed with stove-flowering plants, foliage plants, and ferns, and in no instance have we seen East Indian Orchids grown to greater perfection. We have from time to time witnessed the progress of the specimens we are about to enumerate—in fact, we have seen them grown on from quite small plants purchased some ten or twelve years ago, and the size to which they have attained during this time, viz., up to the first week in September, 1881, will no doubt astonish some of our readers, and convince them it is not true that Orchids cannot be cultivated unless they have houses set apart for their especial benefit. In order to show the error of this conclusion, we will name a few of the specimens that we saw growing on one side of a span-roofed house, with stove plants on the centre stage. *Aërides suavissimum*, grown from a small plant, is now a fine specimen three feet high, having four stems, and in perfect health, the foliage reaching down to the pot; it bore twenty spikes of its long racemes of flowers, many of them having thirty-seven flowers on a spike, and was one of the most beautiful objects that have come under our notice. There is also another plant produced from the same specimen, bearing twelve spikes of its lovely blossoms, which were in full beauty. *A. Warnerii* is a well-grown specimen, having several stems two to three feet in height, and this blooms freely every year. *A. virens*, is also a fine plant, with three stems three feet in height. *A. affine* is a wonderful specimen of good cultivation; it is generally of slow growth, but in this case it has not proved so. *A. crispum* again, is well cultivated, having two stems nearly three feet high, and perfect, and there is also a second plant of the same, three feet in height. *A. Fieldingii* is a fine specimen. *Vanda tricolor*, a well-furnished plant, and *V. suavis* four feet high, with three stems, are both beautifully grown. A plant of the curious long-tailed *Angræcum sesquipedal*, from eighteen inches to two feet in height, has four stems, and is undoubtedly the best grown specimen we have seen. *Phalænopsis Schilleriana*, a good specimen, with seven of its beautifully-marked leaves, is growing suspended over the centre table. There are other choice Orchids, such as *Cypripediums*, *Cœlogynes*, &c. We also noticed, grown in two other houses, intermixed with various plants, beautiful specimens of *Lælia Turnerii*, *L. elegans*, *L. anceps*, *Cattleya Trianæ*, and others. There are also well-grown examples of *Calanthe Masuca*, of *Dendrobium*, and other good Orchids; but space will not admit of these being here enumerated.—B. S. W.

ANGULOA RUCKERII SANGUINEA

ANGULOA RUCKERII SANGUINEA.

[Plate 19.]

Native of Colombia.

Epiphytal. *Pseudobulbs* large, ovate-oblong, four to six inches high, furrowed when mature. *Leaves* several, growing from the apex of the younger pseudobulbs, broadly lanceolate, acute, two to two and a half feet long and four to six inches broad, strongly ribbed and plaited. *Flower-scapes* radical, one-flowered, shorter than the leaves, clothed below with imbricated sheathing bracts. *Flowers* large, fleshy, nearly erect; *sepals* roundish with an apiculus, strongly convex, conniving into a semi-globular shape, which with their nearly erect position gives them a somewhat tulip-like appearance, creamy yellow outside, and of a deep sanguineous red on the inner surface; *petals* similar in form and colour to the sepals; *lip* clawed, subconvolute, three-lobed, the lateral lobes broadish and obtuse, the middle portion hairy, funnel-shaped and two-lipped, the front lobe tridentate, and with the middle part crimson blotched and barred with white. *Column* entire, creamy white, spotted with crimson.

Anguloa Ruckerii sanguinea, *Lindley* in *Gardeners' Chronicle*, 1852, 271; *Hooker, Botanical Magazine*, t. 5384; *Williams' Orchid Growers' Manual*, ed. iv., 90; ed. v., 92.

The subject of our present illustration is an exceedingly rare plant, and is met with in only a few collections. In its habit of growth and general appearance it resembles the type *Anguloa Ruckerii*, but it is very distinct in colour, and is altogether a more desirable plant, the flowers being of a much richer colour—a deep rich blood-red spotted with a darker tint of the same—whereas in the original *A. Ruckerii* they are of a fine orange colour spotted with dark brown.

The growth of this plant is very majestic, producing as it does bulbs four to six inches high, and leaves from eighteen to thirty inches long, by four to six inches broad. The flowers, which proceed from the base of the pseudobulb, are erect, tulip-shaped, and of great substance and size, lasting as long as four weeks in perfection. *A. Ruckerii sanguinea* is a very suitable plant for exhibition purposes on account of the distinct appearance produced by its massive flowers when intermixed with other Orchids.

The temperature best suited for this plant is that of the cool Orchid-house. We have found it succeed well in pots in a compost of good fibrous peat, with plenty of drainage. It requires a good season of rest, during which period the plant should be kept rather dry until it begins to show renewed signs of growth, when the supply of water may be increased. It is propagated by division of the pseudobulbs just before they start into growth. We are indebted for the opportunity of

figuring this plant to Dr. Boddaert, of Ghent, Belgium, in whose collection it flowered last July.

A fine figure of the original *Anguloa Ruckerii* will be found in *Warner's Select Orchidaceous Plants*, 2nd series, t. 10; and it is also figured in the *Botanical Register*, 1846, t. 41; and in *Moore's Illustrations of Orchidaceous Plants*, art. Auguloa, plate 3.

Cattleya Dowiana.—We have received a very beautiful flower of this grand Cattleya, by post, from R. Dodgson, Esq., of Blackburn, in whose fine collection the plant has been grown. Mr. Osman, the gardener, says, "we had three imported plants last year, and two of them are now in bloom." We were pleased to hear this, as *Cattleya Dowiana* is considered a difficult plant to flower, though we have seen many plants blooming this season. There is no doubt that its cultivation is becoming better understood. The variety above referred to has a large lip of a most intense dark purple, striped and reticulated with golden yellow, in a very prominent manner. The sepals and petals are large, of good substance, of a bright nankeen colour, and produce a very pleasing and altogether distinct appearance. This is, undoubtedly, one of the most distinct and beautiful of all Cattleyas. There is a grand figure of this species in the 2nd series of *Warner's Select Orchidaceous Plants*, t. 27.—B. S. W.

Cypripedium Spicerianum.—We were pleased to receive last month a splendid bloom of this fine variety from J S. Bockett, Esq., of Stamford Hill. There is no doubt that it is one of the most distinct species of the whole genus. The dorsal sepal is erect, curiously curved, pure white, of a wax-like texture, having a purple streak extending from the base to the apex; the linear-oblong petals are much crisped on the edge, and, like the other parts of the flower, are of a bronzy-green colour, the lip being darker, of a reddish-brown and glossy. It has been named in honour of H. Spicer, Esq., and was introduced from India some few years ago. We also received at the same time a fine form of *Odontoglossum Chesterton*, and a most distinctly spotted variety of *O. Alexandræ*, the sepals and petals of which are white, spotted with reddish-crimson, and the lip white, with a large reddish-brown blotch on the lower portion.—B. S. W.

Nugent Fitch del et lith

DENDROBIUM AINSWORTHII ROSEUM

DENDROBIUM AINSWORTHII ROSEUM.

[Plate 20.]

A Garden Hybrid.

Epiphytal. *Stems* (pseudobulbs) clustered, elongate, spreading, terete, stoutish above, tapering to the base, jointed, the surface furrowed between the joints. *Leaves* distichous, linear-oblong, acute, three-fourths of an inch broad, sheathing the stems at the base, the sheaths remaining as a membranous investment. *Peduncles* proceeding from the joints of the stem, slender, two to three-flowered, the pedicels with small ovate bracts at their base. *Flowers* showy, white, with rich amaranth-crimson blotch, measuring about three inches across; *sepals* lanceolate or ovate-lanceolate, spreading, white, tinged with rose colour, as are the larger and broader oblong-ovate *petals*; *lip* (labellum) broadly obovate, cucullate, the basal portion rolled in over the column, the anterior portion spread out into a broad concave heart-shaped front lobe, which is undulated at the margin, and nearly covered by a large rich amaranth-crimson blotch, feathered at the edge, and traversed by deeper crimson veins, the extreme margin being paler. *Column* short, enclosed by the basal portion of the lip.

Dendrobium Ainsworthii, *Moore* in *Gardeners' Chronicle* (1874), n.s. i. 443, figs. 93, 94; Id. n.s. viii., 166, figs. 30, 31, 32; *Anderson* in *Gardeners' Chronicle*, n.s. vii., 751; *Floral Magazine*, 2 s. t. 196; *Rand's Orchids*, 242; *Williams' Orchid Growers' Manual*, ed. v., 163.

Var. roseum; sepals and petals tinted with magenta rose; lip almost wholly covered by the large mulberry-crimson feathered blotch.

Dendrobium Ainsworthii *var.* roseum, *Moore* in *Gardeners' Chronicle* (1877), n.s. vii., 665; Id. n.s. viii., 166; *Anderson* in *Gardeners' Chronicle*, n.s. vii., 750.

The beautiful *Dendrobium Ainsworthii* is the result of a cross between *D. nobile* and *D. heterocarpum*, and was raised by Mr. Mitchell, gardener to R. F. Ainsworth, Esq., M.D., of Higher Broughton, Manchester, after whom it is named. In habit of growth and in general appearance the plant partakes mostly of the character of *D. nobile*, while the flowers more closely resemble those of *D. heterocarpum* in form, and have in a slight degree the delicious fragrance of those produced by that species. In *D. Ainsworthii* the flowers have white sepals and petals, while the lip is marked by a dense blotch of a rich amaranth or mulberry-crimson. In the *D. Ainsworthii roseum* now figured, the sepals and petals are of a bright rosy-magenta, and the lip is more fully covered with a richer coloured deep crimson blotch. This variety is extremely rare, and forms a charming contrast to the white blossoms of its sister hybrid. The flowers will be found very useful for cutting, as they last for a considerable time in water.

Dendrobium Ainsworthii roseum requires treatment similar to that given to *D. nobile.* We have found it to do well in a compost of peat and sphagnum moss, planted in pans suspended from the roof of the East India house, in a position where it can get plenty of light and air. During the growing season this plant enjoys a liberal supply of water, which after the bulbs have completed their development may be gradually withheld, and the plant cooled down by placing it in the Cattleya-house, where it should remain until the time of flowering, which extends from February to June. Mr. Stevens, of Trentham, grows it very successfully, suspended in a well-appointed plant stove, where it has abundance of light.

We remember seeing a splendid plant of *Dendrobium Ainsworthii roseum* exhibited by Mr. Mitchell, at the Whitsuntide Manchester Show, in May, 1877, in the form of a well furnished specimen two and a half feet in height and two feet in breadth, the stems being literally smothered with some hundreds of its beautiful crimson-lipped rosy-tinted flowers.

Referring to this same Manchester Show of 1877, Mr. Anderson, of Meadow Bank, a well-known Orchid grower, writes of this plant, as follows (*Gardeners' Chronicle,* N.S vii., 750) :—"Possibly the gem of the Exhibition was *Dendrobium Ainsworthii roseum.* This is a most remarkable seedling partaking of the character of both its parents (*D. nobile* and *D. heterocarpum*), and in some respects superior to either. In point of floriferousness none of its parents can lay claim to such a quantity of nodes on the deciduous stems, each bearing, or rather emitting, its quota of flowers. I counted on one stem sixteen short racemes, each two and three-flowered. The flower itself has the sepals and petals of *moniliforme* rather than of *nobile,* white shaded with an almost imperceptible tint of rose, and tipped distinctly with that soft pleasing colour. The labellum is flat, like an expanded *heterocarpum,* reflexing a little towards the centre, with a blotch covering three-quarters of its surface with deep veined purplish or rather mulberry-crimson, edged very distinctly with white, and the extremity slightly tipped with crimson. This I look upon as one of the greatest gains in hybridization, whether we regard the colour of the flower, or the general floriferousness of the plant, or its free although not awkward habit of growth. As an Orchid enthusiast of the last five and twenty years, I would pronounce it one of the greatest gains that may be counted up in the whole known Orchid family."

Altogether this is a most desirable plant, and being easy of cultivation, and of remarkably free-flowering habit, it should find a place in every collection.

Nugent Fitch del et lith

AERIDES LOBBII.

AËRIDES LOBBII.

[Plate 21.]

Native of Moulmein.

Epiphytal. *Stems* erect, densely foliose, producing the stout aërial roots from between the leaf bases. *Leaves* evergreen, close set, distichous, leathery in texture, loriform, channelled, obliquely bilobed at the apex, of a deep green colour, obsoletely spotted with purple, paler on the under surface. *Racemes* axillary, many-flowered, long, branched, cylindrical, pendulous. *Flowers* very numerous, medium-sized, fragrant, the sepals and petals white, flushed with rosy purple and spotted with deeper rose-purple, the broader lip with a bar of rosy purple, darkest in the centre, from base to apex, and bordered with white; *sepals* and *petals* elliptic-oblong, nearly equal, incurved; *lip* much larger, clawed, the claw hollowed out and coadunate with the base of the column, the limb ovate or somewhat lozenge-shaped, wavy at the margin; *spur* arcuate, somewhat compressed laterally. *Column* short, in form resembling the neck and beak of a bird, with the front edge produced and folded over the stigmatic cavity.

Aërides Lobbii, *Hort. Veitch; Lemaire, Illustration Horticole,* xv., t. 559; *Williams, Orchid Growers' Manual,* ed. 5, 67; *Rand, Orchids,* 149; *Britten & Gower, Orchids for Amateurs,* 177.

This very beautiful brightly-coloured plant was discovered in Moulmein by Mr. Thomas Lobb, who sent it to the Messrs. Veitch & Sons, of Chelsea, about the year 1856. It is of remarkably free-flowering and decorative character, and is no doubt one of the most beautiful species of this fine genus of Orchids, being valuable alike on account of its compact-growing habit, and the strikingly ornamental nature of its inflorescence. There appear to be several varieties of this plant distributed through our Orchid collections, all of them handsome and deserving of cultivation, but that which we now illustrate, from a finely grown, elegantly branching spike, kindly sent to us by C. J. Hill, Esq., of Nottingham, and referred to in the note published under Plate 15, is the finest form, and the most freely bloomed specimen we have met with. We were, in truth, charmed with the size and colour of the flowers of this plant, when recently inspecting Mr. Hill's collection, the long spikes of blossom which were produced by so small a plant being quite extraordinary.

There is no genus of Orchids that surpasses *Aërides* in having handsome evergreen foliage, so that, even when not in blossom, they are exceedingly pretty objects; while to this it must be added, that their flower-spikes are beautiful, and their

flowers deliciously fragrant; some, of course, are more handsome than others, but all are worth growing: in fact, we have never seen an indifferent *Aërides*. They have every good quality that a plant of this character can possess, and they are of easy cultivation, so that anyone who has a stove may manage them successfully. They do not require so much heat as some persons imagine; the temperature need not be above 65° in the winter; more is, indeed, required in summer, but even then sun-heat should be fully utilised, and very little fire-heat should be used.

Aërides Lobbii blooms in June and July, and lasts for three or four weeks in beauty. The plant, from which our illustration was taken, was but a foot in height, and the magnificent flowering racemes we saw upon it were fully two feet six inches in length, with two branches each a foot in length. The sepals and petals are white, spotted with bright rose colour; the lip is also of a bright rose colour, slightly veined and margined with white. The flowers are deliciously fragrant.

The plant being very compact in growth, occupies but little space, so that anyone having a small vacant place in the Orchid-house or plant stove, might readily grow it. It will thrive either in a basket suspended from the roof of the house, or in a pot planted in sphagnum moss, with good drainage, and a moderate supply of water during the summer season, while in winter only just sufficient should be given to keep the moss damp. The plants do not, however, like to be dried up, as this often causes them to loose their bottom leaves, which is a great disfigurement. They require plenty of light, but do not like to be exposed to the burning sunshine. Canvas should therefore be used as a shading during all the bright sunny portion of the day, but when the sun has, in some degree, lost its burning heat the blinds may be raised. Never allow water to get into the hearts of the plants in winter. In summer a fine rose should be employed to syringe them, which operation should be done about three o'clock in the afternoon, when the house is closed.

They should be always kept free from insects. Scale, thrips, and many other insects are to be reckoned amongst their enemies, and cockroaches, if allowed to attack them, will often eat away their young roots and flower-spikes.

CYPRIPEDIUM LAWRENCIANUM.

CYPRIPEDIUM LAWRENCEANUM.

[Plate 22.]

Native of Borneo.

Epiphytal. *Stem* almost none, the leaves springing from the crown of stout roots. *Leaves* radical, distichous, coriaceous, broadly oblong, acute, channelled, a foot long, the upper surface marbled with a dark green mosaic pattern on a whitish-green ground colour. *Scapes* solitary in the leaf-axils, stout, pubescent, with an oblong-ovate acute sheathing bract near the top, from which the flower or flowers emerge. *Flowers* very large, in the way of those of *C. barbatum majus*; *dorsal sepal* subrotund or very broadly-ovate, acute, white, with numerous (about thirteen) shining curved purplish veins which run out nearly or quite to the edge, and usually alternate with others which are short and less boldly marked; *lateral sepals* connate, small, oblong, greenish white, with five dark purplish veins; *petals* fully half an inch wide, divaricate, linear-oblong ciliate, green in the upper half, with purple margin, stained with dull purple towards the tip, and with several dark fleshy warts along each margin, the lower half flushed with pale wine red; *lip* very large, pouch-shaped, the lateral horns much developed, purplish brown above, yellowish green below, with numerous warts on the inside. *Staminode* of a wax-like yellowish white, the posterior exterior border split in the centre, and having five anterior teeth, the middle one much larger than the rest.

Cypripedium Lawrenceanum, *Reichenbach fil.*, in *Gardeners' Chronicle*, n.s., x., 748; *Veitch and Sons, Catalogue of New Plants*, 1879, p. 9, 23, with figure; *Florist and Pomologist*, 1880, 112, with figure.

The introduction of this splendid species of Lady's Slipper is one of the results of Mr. F. W. Burbidge's visit to Borneo, in the service of Messrs. Veitch & Sons, of Chelsea. It is a very robust grower, and flowered for the first time in the autumn of 1878, when it was named by Professor Reichenbach, in the place above quoted, in honour of Sir Trevor Lawrence, Bart., M.P., an ardent orchidophilist, and the possessor of a collection of Orchids of unequalled richness and beauty.

The Cypripediums now form a large family group, and rank amongst the most useful of Orchids that can be cultivated, since the lasting quality of their flowers, especially for exhibition and decorative purposes, is something extraordinary. Many of them in addition possess beautifully variegated foliage, as in the species we now figure, which has the leaves most distinctly marked with light and dark green. Our drawing was taken from a very fine plant in the select collection of H. M. Pollett, Esq., Fernside, Bickley, a gentleman who is a great lover of Orchids, and who has the wisdom to secure healthy young plants at the outset, in order that he may see them grow on into good specimens, such as the one now before us has done. It gives one great pleasure to see plants so well cultivated.

Cypripedium Lawrenceanum has, as we have already said, beautifully marked foliage, so that even when not in blossom, it is found to be an object of attraction. The upper or dorsal sepals of the flowers were in this case three inches across, white, striped with plum-purple, which runs in curved lines from the base nearly to the margin. The petals are green along the upper edge, suffused with purple towards the end, and having black wart-like spots, and a fringe of purple hairs along the margin. The pouch or lip is large, of a reddish brown colour in front, the under and hinder part yellowish green.

These plants are best grown in pots with peat, and a little charcoal, or sometimes a little good fibrous loam mixed with the peat. It is a free-rooting species, and likes to be well elevated above the pot rim, so that its roots can penetrate readily and work freely in the rough material. The pot should be half filled with drainage, so that a good supply of moisture may be given to the roots during the growing season. The Cattleya or the East India-house seems to suit the plants well, as in these structures they grow and flower freely.

The flowers are very useful for cutting, as they will keep a long time in vases if the water is kept sweet and pure.

Baron Schröder's Orchids.—On the occasion of a recent visit to The Dell, Staines, the seat of Baron Schröder, we had the good fortune to inspect the fine collection of Orchids which has been got together. The houses are well built, after the plans of Mr. Ballantyne, the gardener, and are placed in good positions; not only have the ventilation and heating power been well considered, but cleanliness also; indeed the arrangement of the houses leaves nothing to be desired. The Orchids were, at the time, looking remarkably well. Entering the Phalænopsis house we noticed a fine plant in flower of the rare and beautiful *Phalænopsis intermedia Portei*, a treat which seldom falls to one's lot, for it is a matter of regret that this splendid Phalænopsid is so rare in collections: it must be very scarce in its native habitat or collectors would surely find it oftener. *Cypripedium Spicerianum* was also flowering here. Several different species of *Nepenthes* were in fine character, growing above a tank, with their pitchers gracefully drooping over the water, in which position they seemed to be quite at home. In this house were also some grand plants of different species of *Saccolabium*, *Cypripedium*, &c., all doing well. Leaving the Phalænopsis house the Cattleya house, which runs at right angles to it, is next entered. Here we noticed a gigantic specimen of *Cattleya exoniensis*, carrying several spikes of flower; *Lælia autumnalis atrorubens*, with grand spikes, and flowers of unusual size and fine colour; and *Dendrobium Wardianum* in full beauty, suspended from the roof. The Cattleyas, &c., in this house were in grand condition, and bid fair to produce some fine spikes next season. In the Odontoglossum house *Zygopetalum Gautieri* was flowering well, also *Miltonia candida* and *Sophronitis grandiflora*. The East Indian Orchids were in an especially healthy condition, the collection containing some grand specimens of *Vanda*, *Aërides*, and *Saccolabium*.

This collection, which has been lately formed, bids fair to become one of the finest in the country, Baron Schröder being an enthusiastic lover of this handsome class of plants, and being also careful to obtain only the best varieties.—H. W.

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LÆLIA XANTHINA.

LÆLIA XANTHINA.

[Plate 23.]

Native of Brazil.

Epiphytal. *Pseudobulbs* clavate fusiform, the narrowed base closely invested by imbricating bracts, monophyllous. *Leaves* oblong-lorate, bluntish, coriaceous, longer than the pseudobulbs, and with them reaching to about a foot in height. *Scape* four to six flowered, issuing from a terminal linear-oblong acute compressed bract or spathe, three-fourths of an inch wide and about four inches long, and of a pale green colour. *Flowers* leathery in texture, three to four inches across, very distinct in aspect; *sepals* and *petals* oblong-ligulate obtuse, undulated, the sides rolled back so that they appear convex, the petals most so, both of a deep golden yellow, more or less stained or flushed with olive-green; *lip* cucullate, subquadrate, obtusely three-lobed at the apex, yolk of egg colour, paler at the edge, the front border white, and marked on the disc by a few crimson-purple veins, which are not raised like crests above the surface, as in the allied *L. flava*. *Column* semiterete, clavate, lobulate at the apex, projected forwards, about as long as the entire edges of the lip and convergent therewith.

Lælia xanthina, *Lindley*, in *Botanical Magazine*, t. 5144; *Bateman, Second Century of Orchidaceous Plants*, t. 180; *Rand, Orchids*, 303.

Bletia xanthina, *Reichenbach fil.*, in *Walpers' Annales Botanices Systematicæ*, vi. 425; *Id. Xenia Orchidaceæ*, ii. 54.

This interesting and distinct-looking *Lælia* was introduced from Brazil many years ago by Messrs. Backhouse & Son, of York, but from the limited quantity then obtained it has always remained a scarce plant. It appears to have been imported about 1858, as it was figured in 1859 in the *Botanical Magazine*, as above quoted. It is, indeed, with great pleasure that we are enabled to introduce to our readers a figure of so rare and so distinct a species, for it is seldom seen in collections, having always been a rare plant. The colour of the flowers is of a nankeen-yellow, consequently they strongly contrast with those of the generality of Orchids of this affinity, the usual colours of which are purple, or rose colour in various tints, or white.

Our plate was prepared from a drawing which was made in September last from a plant which flowered in our own collection. It will be seen from the representation, which is a very faithful one, that *Lælia xanthina* is really a very pretty species, and one that our collectors ought to be looking after, so that Orchid growers may have it supplied to them at a more reasonable price than at present.

The plant grows about a foot in height, and is somewhat like *Lælia purpurata* in its habit of growth, only it is very much smaller and more compact and free-blooming. The flowers continue about three weeks in perfection. It requires the same kind of treatment as other species of *Lælia* and *Cattleya*, and thrives best when cultivated in a pot or basket, with fibrous peat, and good drainage. Like the rest of its class it requires to be kept as fully exposed to the light as possible, in order that the pseudobulbs may be thoroughly ripened; and the growth being thus more completely matured, it will be found to become more vigorous in character, and enabled to throw up its flower-spikes more freely. There is a grand specimen of this species, over two feet in diameter, in the collection of H. Shaw, Esq., Corbar, Buxton.

Lælia autumnalis atrorubens.—It is highly gratifying to find that this splendid variety of *Lælia autumnalis*, is becoming more plentiful, and that it keeps up its original character. Many growers were of opinion when it was first introduced, that the large size of its flowers and the rich colour of the sepals and petals were due mainly to superior cultivation and a pure atmosphere, but such is not the case. We have flowered some plants of it this season in our own establishment at Holloway, which have been as good, both in regard to the size and colour of the flowers, as those of any of the plants grown in a purer atmosphere, away from the smoke of this great City. We have received from the Right Honorable J. Chamberlain, Esq., M.P., of Birmingham, a splendidly developed spike of a grand form of this beautiful variety, which had been grown under the care of his gardener, Mr. Cooper.—B. S. W.

Odontoglossum vexillarium (Autumn-flowering variety)—A short time back Mr. W. Bull exhibited at South Kensington a recently imported form of *Odontoglossum vexillarium*, which had all the appearance of being a distinct variety, flowering during the autumn months of the year. It is, however, we think, somewhat premature to regard this autumn-flowering character as thoroughly established, though there is no doubt the variety is a distinct one, and remarkably fine in colour. This being the first time of its flowering, the particular growth shown may have been influenced by the time at which the plants were started. However, in due time, and with good cultivation we shall see whether this peculiarity of flowering towards the end of the year is really a constant character, or whether it may have resulted from the circumstances above referred to.—B. S. W.

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MASDEVALLIA HARRYANA CŒRULESCENS.

MASDEVALLIA HARRYANA CŒRULESCENS.

[Plate 24.]

Native of New Grenada.

Epiphytal. *Stems* slender, tufted. *Leaves* evergreen, coriaceous, ten to twelve inches long, with a nerveless elongate oblong-spathulate blade, obtuse or somewhat acute at the apex, channelled at the base, keeled behind, of a very dark green colour, narrowed downwards into the stout petiole, which is three to four inches long, deeply grooved in front, and invested at the base by long membranous brownish sheaths. *Scape* a foot long or more, brown, covered below with three or four bluntish sheaths, the upper of which is distant from the flower and closely appressed. *Flowers* large, peculiar in form, richly coloured, the colour varying in different forms, typically of a brilliant magenta-crimson; *dorsal sepal* elongate linear from a triangular base, sub-erect or reflexed; *lateral sepals* broadly semiovate, apiculate, connate to below the middle, deflexed, the tips approximate, all united below into a decurved *tube*, which is yellow (in the allied *M. Lindeni* the tube is white); petals small, hidden within the tube, linear-oblong emarginate, the base auriculate on one side; *lip* also small, enclosed, clawed, tongue-shaped, cordate at the base. *Column* rather longer than the lip, entire, not winged.

Masdevallia Harryana, *Reichenbach fil.*, in *Gardeners' Chronicle*, 1871, 1421; *Florist & Pomologist*, 1873, 169, with coloured figure; *Belgique Horticole*, 1873, t. 21; *Flore des Serres*, *t.* 2250.

Masdevallia Lindeni, *Hooker, Botanical Magazine*, *t.* 5990—*fide* Reichenbach.

Masdevallia Lindeni, *var.* Harryana, *André, Illustration Horticole*, 3 ser., t. 142.

Var. cœrulescens: flowers of a rich magenta-crimson, with a bluish-purple flush or bloom; otherwise as in the type.

Masdevallia Harryana cœrulescens, *Hort. plurim.; Bull, Catalogue of New Plants*, 1877, p. 83.

We ought to be cordially grateful to our plant collectors for introducing to European gardens so brilliant, varied, and charming a set of epiphytal plants, as the several showy ornamental, and pleasingly grotesque species of the genus *Masdevallia*. There are indeed but few Orchids that possess such bright colours as are found therein. A few years since we had but two species that were really worth growing, namely, *M. coccinea*, of an orange-scarlet colour, and *M. tovarensis*, pure white. Then came *M. Lindeni*, a charming plant with flowers of a rich magenta-purple colour. *M. Veitchiana*, of which there are some very fine forms, made a fine contrast with its glowing orange-scarlet and bright yellow, the scarlet flushed with purple The most beautiful, however, of all the Masdevallias are the varieties of *M. Harryana*, the colours of which—shades of magenta-crimson—are most intense and brilliant, many of the forms being also distinct in shape.

Masdevallia Harryana cærulescens, our present subject, was forwarded to us by R. P. Percival, Esq., of Southport, who is forming what will in time doubtless become one of the best collections of these plants in the North of England. Whatever Mr. Percival takes in hand he carries out thoroughly, and this has led him to build separate houses to suit the different classes of Orchids. Now as Masdevallias prefer cool treatment they are best kept in a house by themselves: they require but a small one, as they take up very little room; indeed they will thrive well enough in the Odontoglossum house, for if their few wants are attended to, there are no freer growing plants in cultivation. They increase very fast under good treatment, and soon repay all the care which is bestowed upon them. They last a long time in beauty and make grand exhibition plants, producing also, when in bloom, a charming effect in the houses if intermixed with the various Odontoglots and other cool Orchids. There are so many varieties that some of them will always be in flower, but the best time to see them is from May to July. They are so accommodating to the grower that many wonderful specimens have been produced and exhibited during the last few years. When a plant is found to be too large it may be divided, and the divided portions will go on increasing.

We have found good fibrous peat and sphagnum moss to suit well as material for the potting of these plants. They thrive best in small pots. The roots should not be disturbed too often; when, however, they require fresh material to root in, it must be given them, as they are free rooting plants and prefer to have sweet wholesome soil about them. They must also have good drainage, for they need an abundant supply of water, and by giving them efficient drainage the water passes off quickly without doing any harm, which it would do if allowed to become stagnant about them. The plants should be placed near the light but so as to avoid the sun's rays. A north house suits them best, as it shields them in summer from the heat of the day, which they do not like, in fact, they should be kept as cool as possible at all times, very little fire-heat being required in winter, and none during the summer. They like fresh air, but in winter cold draughts must be avoided. We find that they will thrive in a heat of from 45° to 50°: even somewhat less would suffice, but the temperature here named is the most suitable. Anyone, therefore, who possesses a small low house could grow them at a trifling expense.

They are easily propagated by dividing the tufts, leaving about three old stems and a leading growth associated. The best time for the division to be effected is just as they are beginning to grow. They should be placed in small pots until they are established, when they should be removed to larger ones.

Insects should be annihilated as soon as they put in an appearance. The thrips is their greatest pest. Cool Orchids, as a rule, are also subject to the attack of a small kind of snail, that increases very rapidly, if not kept under by constant watching night and morning. A few lettuce leaves placed in different parts of the house, or potatos or turnips cut in half and scooped out in the centre, form good traps for them, and by looking these over frequently many of them may be caught, as also by moving the plants, as they are apt to harbour about the pots.

CYMBIDIUM PARISHII.

CYMBIDIUM PARISHII.

[Plate 25.]

Native of Moulmein.

Epiphytal. *Stems* fusiform, three to four inches long, annulately marked with the remains of the leaf-bases. *Leaves* evergreen, distichous, ligulate-linear, keeled behind, bifid with acute lobes, from one to two feet long, of a rich green colour. *Racemes* springing from the axils of the outer leaves, three to seven-flowered, the scapes furnished with lanceolate, falcate, acuminate, scariose sheaths. *Flowers* large, sweet-scented, ivory-white, with an orange disk and crimson-purple spots on the lip; *sepals* and *petals* oblong-ligulate, acute, of a creamy white colour, the lateral sepals largest; *lip* white with an orange coloured central band, flabellately dilated from a narrowed base, three-cleft in front, the side lobes oblong directed forwards, white, with numerous violet-purple spots, the middle or front lobe cuneate-ovate, undulated, with an orange-coloured silky or velvety disk, spotted with purplish crimson; disk having near the base a callus which terminates abruptly in front, and is furnished on the outer side with velvety hairs. *Column* white behind, yellow at the edges, and in front having brownish purple spots at the base; caudicle provided in front, on both sides, with an awl-shaped extrorse process.

Cymbidium Parishii, *Reichenbach fil., MS. Herb. Kew*; *Id. Gardeners' Chronicle*, N.S. I., 338, 566; X., 74; *Id. Transactions of the Linnean Society*, XXX., 144.

The genus *Cymbidium* forms a small group of Orchids of which there are but few species worthy of cultivation for ornamental purposes. That which we now figure is one of the best of them, and is a very rare and very beautiful plant, which has but seldom bloomed in this country. In the summer of 1878 Mr. Swan, gardener to W. Leach, Esq., of Oakley Fallowfield, Manchester, flowered it for the first time in Europe, and about the same time another specimen blossomed with John Day, Esq., of Tottenham, which was subsequently purchased by us for 100 guineas. This latter plant has again flowered, and our sketch was taken from it.

Though a near relative of *Cymbidium eburneum*, this plant is considered by Reichenbach to be a distinct species, the points of difference being—the broader leaves with more prominent nerves on the upper surface; the somewhat smaller flowers with shorter sepals and petals; and the different form of the segments of the lip, together with some peculiarities in its callus and pubescence. It is one of the treasures of India, having been originally discovered so long since as 1859, in Moulmein, by the Rev. C. Parish, who found *Dendrobium crassinode* at the same time. The plants of both these fine Orchids, then collected, were lost in the Ganges, and the *Cymbidium* was not seen again for many years. It appears to have been actually introduced shortly prior to 1874, since at that date living plants are

recorded as being rarities in the collection of Mr. J. Day, of Tottenham, and Mr. R. Warner, of Broomfield, though it had not then flowered in Europe. It is a most chaste and lovely plant, its graceful green foliage, and creamy white blossoms in which the lip is spotted with crimson, producing a beautiful effect. The flowers have also a pleasant perfume, and last for three or four weeks in perfection. The flowering season is July and August, and several flowers are produced upon a spike, in which respect it has a decided advantage on the score of beauty over *C. eburneum*, which produces but one flower on a spike. The latter, however, is a charming Orchid for winter and spring flowering, its ivory-white blossoms being then especially acceptable. There is also another fine species, *C. Mastersii*, which produces its white flowers during the dull months of autumn, when Orchid as well as other white flowers, are scarce. These are all worth growing for the purpose of cutting, as they keep for a long time in water.

Cymbidium Parishii is very much like *C. eburneum* and *C. Mastersii* in its manner of growth, and also in its general appearance; in fact, it is somewhat difficult, when the plants are not in bloom, to distinguish the one from the other. An inspection of our figure will, however, show that the foliage of *C. Parishii* is broader and that it is of a lighter green colour.

It requires the same treatment as *C. eburneum*. We grow the plants in pots, in the Cattleya house, on the side tables, near the glass. The material we use for potting is rough fibrous peat and loam, with thoroughly good drainage, the plants being also elevated above the rim of the pot. Their roots are thick and fleshy, and they therefore require a good supply of water during the growing season, but when at rest, the soil must be kept only just moist. They must be shielded from bright sunshine, by blinds or some other means, otherwise their foliage will become spotted. In winter they do not like to have their leaves damped, although in summer, on warm days, it will not injure them.

They are propagated by dividing the tufts just as they are starting to make fresh growth, leaving some of the established portion at the back of the new growth. They must be kept free from insects. The white scale, which sometimes endeavours to make its way on the foliage, is that chiefly to be guarded against.

VANDA TRICOLOR.—In November last, we saw in the collection of J. Broome, Esq., of Didsbury, a very finely grown plant of *V. tricolor*, with two spikes of exceedingly richly coloured flowers—one of the best we have ever seen. It is in the way of the Dalkeith variety, but the flowers are large and of a remarkably bright colour. Mr. Broome sent us a spike to figure but it was spoilt in the transit; we hope, however, to be able to procure another when the plant again blooms, so that our subscribers may see what a well-grown specimen it is. It stands two feet six inches in height, and has beautifully healthy foliage down to the pot.

CATTLEYA VELUTINA

CATTLEYA VELUTINA.

[Plate 26.]

Native of Brazil.

Epiphytal. *Stems* slender, terete, from twelve to eighteen inches high, supporting the evergreen foliage, and furnished at intervals with short ovate appressed bracts. *Leaves* in pairs, oblong, acute, widest near the base, leathery, about eight inches long, and an inch and a half broad, of a dark green colour. *Scape* two-flowered, issuing from a terminal compressed sheath or bract. *Flowers* of medium size, stout in texture, tawny orange, the lip white marked with purplish spots arranged in radiating lines, very fragrant; *sepals* ligulate-oblong, acute, recurved, rich tawny orange, spotted with purple; *petals* of the same colour, cuneate-oblong, acute, somewhat lobulate or wavy; *lip* three-lobed, the side lobes very short semi-ovate, partially enclosing the column, the front lobe large, roundish-ovate, apiculate, wavy and toothletted, the disk between the side lobes yellow with purplish streaks, the radiating veins purplish, the front or middle lobe white with dark purple veins, everywhere clothed with velvety pubescence. *Column* free at the back, marked with many purple spots, and having a purplish border to the anther-bed.

Cattleya velutina, *Reichenbach fil.*, in *Gardeners' Chronicle*, 1870, 140, 1373; *Id.* 1872, 1259, figs. 288, 289; *Williams, Orchid Grower's Manual*, 5 ed. 135.

This fine Orchid first flowered in 1870, under the care of Mr. A. Williams, in the collection of Joseph Broome, Esq., of Didsbury, Manchester, and subsequently in that of E. G. Wrigley, Esq., of Bury. What is described as a still finer variety of the same plant appeared shortly after in the collection of Consul Schiller, of Hamburgh. One of the most remarkable and special peculiarities of the species is the powerful fragrance of its flowers, which is so strongly developed as to scent the whole house in which a blooming plant is placed.

It is a very rare as well as a very distinct species. We have, ourselves, only met with one example in bloom, besides that from what our illustration was taken, and that was the specimen in the collection of Mr. J. Broome, above referred to, as being the first which bloomed in this country. Our figure was taken from a plant which flowered recently in the grand collection of Sir Trevor Lawrence, Bart., M.P., who was good enough to send it for our artist to sketch, and he has succeeded in securing a very faithful likeness of it. We have no doubt our collectors will meet with it in their journeyings in its native country, but it must be rare there, or we should have obtained more of it; most probably, like others of its genus, it is difficult to secure. It resembles *Cattleya bicolor* in its habit of growth, the stems bearing two leaves, which grow about twelve to eighteen inches in length. The sepals and petals are of a rich tawny orange colour, irregularly spotted with

purple, and the lip has the side lobes yellow, and is white in front, and distinctly striped with violet. Mr. Spyers says it blooms in September and October, when its fragrance, combined with its distinct colour, renders it a very acceptable inmate of the Orchid house; it also flowers at a time when few other Cattleyas are in bloom.

Cattleya velutina requires the same treatment as the other Cattleyas, that is, to be potted in peat soil with good drainage; it does not need so much water at the roots as some kinds, but it should be borne in mind, on the other hand, that it must not be allowed to shrivel, and therefore a little moisture should always be supplied to the roots. If the plant once gets into an unhealthy condition its recovery will be very doubtful. Those of the Cattleyas, such as *C. bicolor* and *C. velutina*, which have very slender bulbs are more liable to go wrong than those that form thick fleshy bulbs, the latter having more substance from which to draw their support. They require to be kept near the light, with very little shade, excepting just sufficient to keep them from the burning sun.

Like other Cattleyas, this species is subject to the inroads of the scale insect, which should be frequently sought for, and, if found, promptly removed. The foliage should be kept in a plump condition and not allowed to shrivel. In cleansing the leaves injury is often caused by too hard rubbing, by which they become bruised; rather should they be handled delicately, as, if once damaged, they cannot be restored to a sound healthy appearance. A damaged leaf is not only a disfigurement, but is of great injury to the health of the plant, by interfering with the action of its pores. Cleanliness is one of the great secrets of success in plant cultivation, but the operation of cleansing should be taken in hand before the insects get a-head, or they will assuredly eat into the leaves, which will thus become permanently injured at the points of attack.

Dr. Ainsworth's Orchids.—When in Manchester we had the pleasure of visiting the collection of R. F. Ainsworth, Esq., M.D., in whose fine and varied collection the plant that most especially attracted our attention was *Masdevallia Chimæra*, the blossoms of which were very large, each flower measuring seventeen inches across. The effect of these beautiful and curiously spotted flowers hanging around the basket was very striking. We have had it sent to us to figure, but the flowers do not travel well; we hope, however, some day, when it is in bloom, to be able to figure it. We also noticed, in the same house, a wonderfully fine form of *Odontoglossum Alexandræ*, with broad sepals and petals of beautiful white, while the centre of the petals is marked with a pleasing rose colour, which gives it a very pretty appearance; the lip is large, white, beautifully crisped round the edge, the upper part bright orange-yellow. It was, altogether, a very showy flower. Mr. Mitchell, the gardener, said it had been in bloom for several weeks, and it was still fresh and fine when we saw it.

ODONTOGLOSSUM BREVIFOLIUM.

ODONTOGLOSSUM BREVIFOLIUM.

[Plate 27.]

Native of the Cordillera of Peru.

Epiphytal. *Pseudobulbs* ovate-oblong, compressed, monophyllous. *Leaves* short, oblong, two inches broad, and sometimes not much exceeding that in length, spreading. *Scape* simple, radical, bearing at the apex a many-flowered erect raceme, the membranaceous bracts of which are oblong acute, and as long as the pedicels. *Flowers* nearly or quite two inches in diameter, of a rich chestnut brown on the inner, and olive-green on the outer surface; *sepals* roundish-ovate, somewhat undulated, narrowed at the base, of a bright chestnut-brown, narrowly bordered with yellow; *petals* similar in size and colour, oblong-ovate; *lip* clawed, auriculate, wedge-shaped, emarginate, shorter than the sepals, bright yellow, bearing at the base five warty tubercles, with a three-toothed appendage in front of them. *Column* small, the edges of the anther-bed serrated, and decurrent in the form of membranous wings.

Odontoglossum brevifolium, *Lindley* in *Bentham's Plantæ Hartwegianæ*, 152; *Id. Folia Orchidacea*, art. *Odontoglossum* no. 61; *André* in *Illustration Horticole*, 3 ser. t. 170; *Reichenbach, fil.*, in *Walpers' Annales Botanices Systematicæ*, vi. 846.

This very distinct species was first found by Hartweg, on the Peruvian Andes, near Loxa, and was described by Lindley, in Mr. Bentham's account of the plants collected by that traveller. It appears to have been introduced by M. Linden, and to have been first flowered in his establishment, the figure published in *L'Illustration Horticole* having been derived from this source. The small compressed pseudobulbs are formed at the end of a sucker or offshoot, which is invested by large membranous bracts or scales, the upper of which covering the base of the flower-scape is somewhat broader and leaf-like.

This Odontoglot ranks among the most distinct species of its genus, as may indeed be seen by a glance at our illustration. It produces dense spikes of its beautiful flowers, which are more in the way of those of *Odontoglossum coronarium* than of any other cultivated species; it, however, blooms more freely. The spike of flowers we have here represented was sent to us by Mons. F. Massange, of Liége, in whose collection the gardener—Mr. Kramer—induces it to flower freely every year. M. Massange is a great *connoisseur* of Orchids, and in his collection are to be found many rare and valuable specimens, which have been frequently exhibited during the past few years, including the Liége Exhibition of 1881.

Odontoglossum brevifolium is a dwarf growing plant, and produces its erect spikes of flowers from the side of the pseudobulbs. There were seventeen blossoms on that which is here represented. The sepals and petals are of a bright chestnut-brown, margined and slightly marked near the base with yellow, the lip is rich yellow with two light brown patches at its base. It is altogether a strikingly showy plant, and one that should be always cultivated amongst Odontoglots for its distinctness of colouring.

The treatment which we find to suit the plant, is to grow it in a basket suspended from the roof, as it requires and enjoys all the light that can be given to it; but, of course, it needs to be shaded from the burning sun. The most suitable material in which to grow the plant is sphagnum moss and fibrous peat. It requires also a good supply of water in the growing season, so that it must be thoroughly drained. It thrives best in a cool house in which the same temperature is maintained as is found congenial to *Odontoglossum Alexandræ*, and others of that class.

Odontoglossum Londesboroughianum.—We have been under the impression that this species was not so good as it was first reported to be, but we are now of a different opinion. There are no doubt many varieties of the plant, as is the case with nearly all Orchids. In their native countries they are produced freely from seeds, all of the variations not being equally good. If our collectors could only pick out the best, when in bloom, we should be saved many disappointments. but of course they cannot spend their time in doing this. We were agreeably surprised when we paid a visit to the collection of G. W. Law-Scholefield, Esq., New-Hall-Hey, Rawtenstall, near Manchester, to see a fine spike of the *O. Londesboroughianum* with twenty-five of its large blossoms, much finer than any we had ever seen before. The sepals and petals are yellow, barred with brown; the lip is large, of a bright golden yellow, and very showy, and, as the long spikes hung drooping among the white and coloured flowers of the other Orchids the effect was very good. No one could complain of having such a species as this, for it is a most showy flower.

Cypripedium insigne.—When calling at Mrs. Haywood's, Norris Green, Liverpool, a few weeks ago, we were pleased to see a fine specimen of this old Orchid, which was two feet in diameter; on nearly all the numerous scapes there were two flowers, and very fine ones they were. Mr. Bardney, the gardener, informed us that they come so every year, which makes this plant the more interesting, as the character of the species is merely to produce one flower on a stalk. This plant was grown in the grand conservatory, in which there was a most wonderful display of blossom, in fact, the grandest lot of greenhouse flowers we ever remember to have seen in winter, consisting of Pelargoniumns, Primulas, Camellias, Cyclamens, and the *Luculia gratissima*, with 40 or 50 heads of bloom. There are not many Orchids at this place, but, what there are, are doing well, and are well looked after.

ZYGOPETALUM GAUTIERI.

ZYGOPETALUM GAUTIERI.

[Plate 28.]

Native of St. Catherine's, Brazil.

Epiphytal. *Pseudobulbs* oblong, deeply furrowed, the younger ones ancipitous, attached to a branched creeping rhizome. *Leaves* fascicled, distichous, the outer ones shorter, the central ones narrowly elongate-oblong, plicate with a strongly developed costa, ten to twelve inches long, bright green. *Scape* issuing from the centre of the leaf-tufts, and terminating in a drooping raceme of three to six flowers, furnished with elongate-oblong amplexicaul bracts, those subtending the flowers being nearly as long as the pedicels. *Flowers* large, showy, green blotched with brown, the lip purple with darker purple ruff in front of the column; *sepals* and *petals* oblong, acute, nearly equal, the petals directed upwards, all pale green transversely barred and blotched with purplish brown; *lip* broad, three-lobed, furnished with an obtuse spur, the lateral lobes erect, rich deep purple, forming a crenated unguliform ruff or frill around the column, the middle lobe very large, two inches across, roundish, broader than long, apiculate, deep bluish purple, lighter at the edge. *Column* short, half surrounded by the purple ruff, arcuate, the anther case yellow, with a projecting point at the apex.

Zygopetalum Gautieri, *Lemaire, Illustration Horticole*, t. 535; *Williams, Orchid Grower's Manual*, 5 ed., 311.

This genus of Orchids does not comprise so many species as many others, but among those which are known and introduced, are some which make very useful autumn and winter flowering subjects, and which are well adapted for decorating our stoves and Orchid houses. Amongst them occur some of the oldest of cultivated Orchids, such as are generally to be met with in good old-fashioned places. We remember to have seen plants of *Zygopetalum Mackayi* and *Z. crinitum* some thirty years ago, also of *Z. maxillare*—grand specimens with from seventy to a hundred flowers upon them, and a magnificent sight they were, with their numerous spikes hanging around the foliage, as represented in the plate, and being similar in colour.

The species which we now desire to bring to the notice of our readers, is a very lovely one, which has been sometimes considered as a variety of *Zygopetalum maxillare*, but the flowers are larger, and it not only blooms much earlier, but continues in blossom for several weeks. In addition to this, it is a much freer grower than *Z. maxillare*. We have had different plants in flower for several months, and then they seemed as though they would continue blooming much longer; in fact this species seems to flower whenever it makes its young growth—a peculiar feature which renders it the most useful of its class.

Our plate was prepared from a plant which bloomed in the fine collection of Mons. D. Massange, of Marche, in Belgium, under the care of Mr. Wilcke, who is one of the most successful continental growers of Orchids. We had the pleasure of seeing specimens from M. Massange's grand collection, exhibited at the great show held at Brussels in July, 1880.

Zygopetalum Gautieri is a dwarf growing kind, attaining a height of about twelve inches, and is provided with distinct plaited green foliage. The flowers are large, and borne several together on the spikes; the sepals and petals are green, blotched with purplish brown, while the lip is of purplish blue, edged with a lighter tint of the same colour.

There are several varieties of this species, varying from very pale violet to a rich purplish blue, the variety here figured being one of the darkest-coloured forms we have yet met with. The flowers are particularly showy, and last a long time in perfection.

It is of easy cultivation, and not only free-growing but also free-blooming. It does well in the Cattleya house, planted in peat and moss, with good drainage, and it may be grown either in a pot or a basket, or on a block of wood, or on the stem of a tree fern, on which latter it is frequently imported from its native country. In its wild state, it appears naturally to creep up these fern stems, and it must look very beautiful growing in this way, since its drooping spikes cannot fail to have a good effect when thus seen hanging among the green foliage. It requires a good supply of water during the growing season, but, when at rest, less will suffice. The plant needs plenty of light, but it must be shaded from the fierce sun-rays during the summer months.

Lælia anceps Dawsoni.—One of the best specimens we have had the pleasure of seeing of *L. anceps Dawsoni* is in the collection of R. S. Dodgson, Esq., Blackburn; it had four spikes of buds when we saw it in November last; since then we have received a spike of three flowers, and a very fine variety it is. Mr. Osman informs us that the plant has ten expanded blossoms. It is one of the best plants and as good a variety as we have met with; the sepals and petals are large, pure white, and of great substance; the lip is bright rosy purple edged with white, the throat orange, veined with purple. No doubt there are different varieties in cultivation which were imported along with this some years ago. Mr. Dodgson's plant is grown suspended from the roof, and from its appearance this seems to be the best method of growing it to perfection. It likes plenty of light all the year round, and should be just kept shaded from the burning sun.

J. Nugent Fitch del. et lith.

CŒLOGYNE MASSANGEANA.

CŒLOGYNE MASSANGEANA.

[Plate 29.]

Native of Assam.

Epiphytal. *Pseudobulbs* pyriform, three to four inches in height, smooth, bearing two leaves at the apex. *Leaves* persistent, cuneate-oblong, acute, stalked, somewhat plicate, a foot and a half high including the stalk, and four inches broad. *Peduncle* pendulous, produced from the base of the pseudobulbs, one and a half to two feet long, nigro-asperate; *bracts* cuneate-oblong obtuse, much shorter than the pedicels. *Flowers* showy, in loose racemes of two dozen or more, yellow with a brown lip; *sepals* ligulate obtuse, somewhat keeled outside, light ochre-yellow; *petals* linear-ligulate, of the same colour as the sepals; *lip* three-lobed, concave, the side lobes semi-ovate, acute in front, of a beautiful maroon-brown with ochre-coloured veins, the middle lobe creamy white at the edge, with a large brown disk, short, transversely oval with an apiculus, and having three light yellow rather prominent toothletted keels extending from the base to the anterior lobe, and "six confluent rows of green retuse many-angled cells, reminding one of human molar teeth" in front of them. *Column* light ochre-yellow, streaked with brown, winged in front, the anther-bed with a retuse membranous border.

Cœlogyne Massangeana, *Reichenbach fil.*, in *Gardeners' Chronicle*, n.s., x., 684; *Floral Magazine*, 2 ser., t. 373.

The plant which we now bring under the notice of our readers belongs to a rather extensive genus of Orchids, some of the species of which are very beautiful, while others are not worth cultivating as decorative plants. That which is now before us, is, however, an exceedingly handsome and very remarkable species, which was imported from Assam, by MM. Jacob-Makoy & Cie., of Liége, Belgium. Our illustration was taken from a very fine plant, which produced no fewer than eight of its long pendulous racemes of flowers, some of these having as many as twenty-seven blossoms on them. This grand specimen was grown in the notable collection of Mons. D. Massange, at the Château de Baillonville, near Marche, in Belgium, in whose honour the species was named by Professor Reichenbach. We had the pleasure of seeing this extraordinarily fine plant, growing under pot-culture, in M. Massange's Cattleya house, and since then we have received the materials from which our artist has made the capital representation which accompanies these remarks. In regard to its botanical affinities it stands near to the Bornean *Cœlogyne asperata*, which is sometimes called *C. Lowii*.

One remarkable feature of this *Cœlogyne Massangeana* is the extraordinary shortness of time which it takes to develope its rather ample spikes of flowers; these

are often pushed up from the pseudobulbs in their corkscrew-like fashion, and become extended to their full length in a very few days, the buds swelling off at once, and the flowers very soon appearing in full beauty, in which state they continue for four or five weeks.

We have seen a wonderfully fine example of this plant in the grand collection of R. Smith, Esq., Brentham Park, Stirling; this was suspended from the roof, and bore several fine flower-spikes. Mr. Smith regards this as one of the most beautiful Cœlogynes in cultivation. When we saw the plant, it was overhanging a wonderful specimen of *Cattleya exoniensis*, a grand variety, and there were also many other fine Cattleyas in the same house.

Cœlogyne Massangeana is a free-growing evergreen plant, with stout pseudobulbs from three to four inches in height, each supporting a pair of light green plicate leaves, which are about eighteen inches high, and about four inches broad. The flower-spikes are produced from the base of the pseudobulbs, and, when the plants are in vigorous health, they frequently attain the length of eighteen inches, or sometimes two feet. The sepals and petals are of a light yellow-ochre colour; the lip rich brown, its upper part or side lobes creamy yellow, lined with brown. The plant flowers at various times of the year. We have more than once had it in bloom twice in one year, and it continues for several weeks in a state of freshness and beauty.

In its native country, Assam, this species is found growing on the branches and stems of trees. Here, provided it receives proper treatment, it is a very free-growing Orchid, and is also easy of increase, as it often produces two growths from one bulb. It will thrive either in a basket or in a pot, but, when in bloom, it should be suspended from the roof in order that it may be seen to the best advantage, to accomplish which, if it be grown in a pot, some wire may be fixed around the rim by which to hook it up. When growing it may occupy any part of the Cattleya house, but it should be placed so that it can obtain plenty of light. When hung up near the glass it must be shaded from the burning sun. With us it thrives well in good fibrous peat, and we have found it to be a free-rooting plant, requiring to be kept moist during the growing season; indeed, we never allow the plants to become too dry, but just supply them with sufficient moisture to prevent them from shrivelling. Every effort must be made to keep the foliage clean, and free from insects, in respect to which the cultivator should adopt and act up to the golden maxim—"Prevention is better than cure."

CYMBIDIUM EBURNEUM.—In our remarks on this plant, under Plate 25, we have inadvertently referred to it as producing but one flower on a scape. This, however, is not quite correct; as, although the scapes each usually bear but a solitary blossom, we have known them to produce two, or sometimes even three flowers.—B. S. W.

Wagner. Photo. del. et lith.

LÆLIA ELEGANS ALBA.

LÆLIA ELEGANS ALBA.

[Plate 30.]

Native of Brazil.

Epiphytal. *Stems* terete, somewhat club-shaped, about eighteen inches in height, the weaker ones bearing one, the stronger two, leaves at the apex. *Leaves* solitary or in pairs, ligulate-oblong, from six inches to a foot in length, very thick and leathery in texture, of a bright green colour. *Scape* two to three-flowered, issuing from a terminal oblong compressed bract, about three inches in length. *Flowers* white and crimson-purple, large and very handsome, about six inches in expansion; *sepals* oblong lanceolate, acute, plane, pure white; *petals* rather shorter than the sepals, broadly-lanceolate, undulated at the margins, pure white; *lip* three inches long, three-lobed, the lateral lobes rolled over the column, the front portion spreading, undulated, and marked within the edge with a blotch of crimson-purple, the middle lobe roundish, flabellately expanded, crispato-undulate, of a rich crimson-purple, the colour breaking out near the tip into crimson veins on a purplish ground, and extended into a claw-like base through the pale yellowish disk. *Column* about as long as the convolute base of the lip, enclosed.

Lælia elegans var. alba, *Williams, Catalogue* 1881, 68.

We have here one of the most beautiful of this charming class of Orchids, and one which no Orchid fancier can fail to admire. The showy blossoms of the forms of this species offer many shades of colour, those of the variety before us being exceedingly chaste and delicate. The accompanying figure is a good representation of this charming variety, and was prepared from a sketch of a well-grown specimen which bloomed in the fine collection of W. Lee, Esq., Downside, Leatherhead, under the care of Mr. Woolford, the gardener.

This Lælia grows about eighteen inches high; it is furnished with bold thick foliage of a pleasant green, and produces its blossoms in June and July, continuing for about three weeks in beauty. The sepals and petals are of a pure white, while the lip is of a rich magenta-crimson, the two colours making a well-marked and charming contrast. This delicately beautiful variety is extremely rare.

Lælia elegans alba is like the Cattleyas in its growth, with the exception of the stems being more slender, most of them producing two short leaves about six inches in length. The plants require the same temperature and the same material in which to grow as the allied Cattleyas, and also about the same amount of water during the growing season. The rest required is also the same as for Cattleyas. There are some of the species, such as *L. albida, autumnalis, majalis, pumila*, and others, which will thrive better in a cooler temperature. They are all subject to insects, which should be diligently looked after. White scale is sometimes troublesome, and

if allowed to remain on them will disfigure the foliage by causing yellow spots. Thrips will also attack them, and increase very fast if they are not kept under by adopting the usual remedies.

Shading Orchids.—This is a subject of the greatest importance in Orchid culture, and one that is often overlooked until it is too late—the mischief being done. What is required is a strong durable material that will wear well, and, where rollers are used, stand the strain upon it. It must also be understood that shading does not consist of merely daubing upon the glass some opaque material, such as paint, summer cloud, whitening, or the like, which though all very well as palliatives in positions where rollers cannot be used, such as at the ends and sides of a house, are greatly to be deprecated as a shading for the roof, for this reason, that in our English climate we are so subject to sudden changes of the weather, that were such a permanent shading to be used, we should frequently, especially during dull weather, have our plants in comparative darkness when they should be getting all the light possible. This cannot fail to lead to bad results and produce a sickly growth. Some growers use thick canvas; indeed, we have done so ourselves many years ago, but, by experience, we have found out the ill effects of it, for when we employed this kind of shading, we found the plants under its influence became weak and sickly, producing small puny flower-spikes. A lighter shading was then employed, and the difference was marvellous; the plants assumed quite a different aspect. It was at this time that we were exhibiting at Chiswick the fine specimens of East Indian Orchids—Aërides, Saccolabiums, Vandas, Dendrobiums, and many others—such as we seldom see equalled now. Since then we have used thinner shadings, with the best results. Our Vandas thus treated have always been strong and healthy, with broader foliage, producing their flower-spikes as often as three times a year, with the flowers of a good colour, lasting a long time in perfection; in fact we are never without flower, always having a good display. We refer more particularly to the suavis and tricolor section of the genus. Some people imagine Vandas do not flower till they attain a large size, but such is not the case if they are properly grown, and thin shading is used. Our experience leads us to the belief that all Orchids, with a few exceptions, require a thin shading, that is to say, one that, while warding off the direct rays of the sun, will allow the light to enter through it. To arrive at this result we use a strong, durable, cotton netting, woven in small squares, close enough to exclude the rays of the sun, while the light penetrates it with but little interruption. This netting stands exposure to the weather much longer than canvas, and on that account is cheaper in the long run. We have used this material for some years; in the case of Cool Orchids, Mexican, and East Indian kinds, with the best results, the netting being attached to rollers with appropriate gear. For the cool Orchid houses we employ raised blinds, upon which we hope to speak further shortly. The blinds can be managed with but little trouble. In the winter we take them off the house and put them in a dry place until they are required again in the ensuing spring.—B. S. W.

CALANTHE VEITCHII

CALANTHE VEITCHII.

[Plate 31.]

A Garden Hybrid.

Terrestrial. *Pseudobulbs* fleshy, conical, bluntly angular, four to six inches in height. *Leaves* deciduous, about two from the apex of each pseudobulb, lanceolate, narrowed both towards the base and apex, plicate or plaited, of a bright green, produced before the flowers. *Scapes* radical, downy, invested in the lower part with sheathing bracts, and each supporting a tall showy raceme of flowers, sometimes reaching three to four feet long. *Flowers* abundant, each subtended by an ovate bract, of a very attractive and pleasing tint of rich deep rosy pink, darker in some varieties; *sepals* oblong lanceolate, the dorsal one erect, the lateral ones spreading, deep rose-pink; *petals* of the same form and colour, patent, directed upwards; *lip* adherent to the column, round which it is rolled at the base, front part clawed, and expanded into a squarish four-lobed limb, rich rose-pink, deepening almost to crimson around the creamy white eye or centre, the spur straight, downy. *Column* small, terete, downy at the back.

Calanthe Veitchii, *Lindley, Gardeners' Chronicle,* 1859, 1016; *Hooker, Botanical Magazine,* t. 5375; *Bateman, Second Century of Orchids,* t. 106; *Jennings, Orchids,* t. 48; *Floral Magazine,* t. 280; *Williams, Orchid Growers' Manual,* 5 ed., 109.

This Hybrid is one of the most distinct and charming of Orchids, as well as one of the most useful for winter decoration. Our illustration was prepared from some admirably grown materials which were kindly sent to us from the rich collection of William Leach, Esq., of Oakley, Fallowfield, near Manchester, where we have seen as many as one hundred flower spikes of one of the most highly coloured forms of this somewhat variable plant in full beauty; and, intermixed as they were with the white *Calanthe vestita,* the effect produced was exceedingly pleasing and attractive. Mr. Swan seems to have hit upon the most successful method of cultivating these very charming plants, for some of the spikes bore as many as forty flowers. He evidently knows also how to arrange the plants to advantage, namely, by placing them in rows among the foliage of the East Indian Orchids, so that the Calanthes, blooming as they do without their leaves, have their beauty enhanced by the foliage of the associated plants, especially that of the Aërides and Vandas.

Calanthe Veitchii is of deciduous habit, losing its foliage just as it comes into flower. We have, however, occasionally seen it with leaves accompanying its flowers, though its natural habit is to lose them. It produces flower spikes from three to four feet or more in length, and sometimes bears as many as fifty flowers on one spike. The plants are free-blooming and continue in flower for two months. The sepals and petals, as well as the lip, are of a rich rosy pink colour. A gay appearance may be kept

up throughout the dull months of winter by having a sufficient number of plants and starting them successively into blossom.

These Calanthes are very accommodating, since they will thrive well in baskets suspended from the roof, as well as in pots suspended by wire in the same way as the baskets; they will also thrive in pots standing on the tables, where room is not an object. If grown in baskets, they will require more water in their growing season. We prefer them grown in this manner where there is room, as they look so pleasing with their spikes hanging gracefully from the roof. Where hundreds of spikes have to be produced, as for instance is the case with Mr. C. Penny, of Sandringham Gardens, for decorating the Prince of Wales' table, the effect produced is charming, and even for filling large vases they form a most elegant adornment.

They are of easy cultivation when they get the treatment they require. Like all other deciduous and bulbous plants their blooming season follows that of the completion of the growth of the bulbs, and their growing season commences when they have finished blooming, after which they will soon begin to throw up their young growths. When this is observed, let them be fresh potted. We have found it best to do this every year, as they lose all their old roots annually. We shake the soil away and cut off all the roots, and repot them, when, as soon as they begin to grow, they will send out their new roots into fresh soil. The material we use for potting is good rough fibrous loam and leaf mould, with a little rotten manure, mixing them well together, and giving good drainage with a layer of rough peat and moss on the top of it. In potting, fill the pot up with the soil and place the bulb on the top, just making it firm; it will soon root and support itself. If planted in baskets, it is necessary to place some rough fibrous peat round the sides and at the bottom to keep the soil from washing out; fill the basket up with the same kind of compost as that recommended for the pots, with drainage at the bottom; place the bulbs upright in the basket, about three in number, on the top of the soil, and finish by giving a little water. After the plants get into growth and are making roots freely, they should always be kept moist until they have finished their growth, when a less copious supply will suffice; and after they have bloomed they may be kept dry for a time until they are ready for potting. When the plants are in vigorous growth a little manure water may, with advantage, be applied to their roots once or twice a week, but it must be well diluted before being used, as, if given too strong, it might destroy the roots.

We find the East India house to suit these Calanthes best, or they will thrive well in a house where stove plants are grown. They are propagated by separating the pseudobulbs at the time they are potted, and as they generally make two growths from one bulb the increase is comparatively rapid. Like other orchidaceous plants, they must be kept free from insects.

ONCIDIUM HÆMATOCHILUM .

ONCIDIUM HÆMATOCHILUM.

[Plate 32.]

Native of New Grenada.

Epiphytal. *Pseudobulbs* none or obsolete, the leaves and flower-scapes springing directly from the axils of the scaly bracts which surround the crown. *Leaves* solitary, flat, oblong, acute, leathery in texture, dull green spotted with reddish brown, nine to twelve inches long. *Scape* radical, deep red, supporting a dense panicle of green spotted crimson-lipped flowers. *Flowers* about an inch and a half across, showy on account of their rich colouring and markings; *sepals* oval-oblong, yellowish green, thickly marked with irregular transverse bands of rich reddish brown; *petals* oblong, spathulate, wavy, similar in colour to the sepals, but less heavily marked; *lip* clawed, with a pair of auricles at the base, the claw and auricles deep magenta-rose colour, the front expanded portion roundish or transversely reniform, of a deep sanguineous crimson, and having the margin yellow, closely mottled with deep rose-crimson, the disk furnished with a flexuose crest shaped like the letter W, and thence raised into an eminence with a toothlet on each side. *Column* short, with rounded wings curved downwards and somewhat lobed.

Oncidium hæmatochilum, *Lindley*, in *Paxton's Flower Garden*, i., t. 6; *Id.*, reissue, t. 26; *Id.*, *Folia Orchidacea*, art. *Oncidium*, No. 132; *Reichenbach fil.*, in *Walpers' Annales Botanices Systematicæ*, vi., 783.

Oncidium luridum purpuratum, *Loddiges, List* — *fide* Lindley.

This is undoubtedly one of our oldest Orchids—one that we recollect to have seen in bloom with the Messrs. Loddiges, in their noble collection of Orchids, about thirty years ago. We have always been under the impression that it was one of the prettiest of the spotted Oncidiums, but, although we have occasionally bloomed it, since then we have seen it in very few collections. We were accordingly very greatly pleased to meet with a remarkably fine example of it in the collection of G. W. L. Schofield, Esq., of Rawtenstall, near Manchester, from which our illustration was taken. The plant bore two flower-spikes, one of which was three feet six inches in length, bearing forty fine blossoms, and was a most beautiful example of the species; the other was shorter, and from this our drawing was made, as our page would not afford space for the representation of the larger spike. Our readers will, however, be enabled from the description and figure to form a good idea of the beauty of this rare species when well grown. Mr. Schofield is a great lover of good Orchids, and apparently intends having a fine collection of them, as he has had houses built for the different classes; his gardener also takes great interest in the plants, and consequently they are closely looked after and well cared for.

The *Oncidium hæmatochilum* is a very compact-growing plant, with leaves from nine to twelve inches in height, and two and a half inches broad, of a dark green colour, spotted with brown. The sepals and petals are of a greenish yellow, mottled with crimson; the lip is of a rich crimson, edged with yellow, and spotted round the margin with magenta-rose colour. It flowers in November, the blossoms continuing for several weeks in perfection, and is a plant that will no doubt become popular, as it blooms at a time when flowers are in request. The specimen we are describing was grown in a basket in the Cattleya house, in peat and moss, which form an unexceptionable compost for it, with good drainage, and a moderate supply of water in the growing season. It is best suspended from the roof where it may obtain plenty of light, but it does not like bright sunshine, and consequently must be shaded in sunny weather.

The Oncidiums are a class of Orchids among which occur some most showy and beautiful species; while almost every colour we could mention is to be found represented among them. They come from different regions, and in consequence their treatment must vary. Some of them rank among our finest exhibition plants, as well as amongst the best for the decoration of our stoves and Orchid houses. We often see fine specimens of Oncidiums in our grand old collections of plants where there is no pretence at growing a collection of Orchids, but where they are merely cultivated for cutting purposes. What is more airy and elegant for vases than the inflorescence of *Oncidium flexuosum*, or even *O. sphacelatum*, or that of many others we could mention if space would allow? What more brilliant than such species as *O. varicosum* and its variety *O. Rogersii*, *O. ampliatum majus*, *O. tigrinum*, *O. Marshallianum*, or *O. macranthum?*

Dendrobium Findleyanum.—This plant is now (January, 1882) finely in flower in the collection of J. C. Bowring, Esq., Windsor Forest. It must be a grand specimen, as Mr. Clinkaberry, the gardener, informs us that it has one hundred and ninety-two expanded blossoms. We have never before heard of such a well-flowered specimen as this; indeed, large plants of this species are somewhat rare. It is a most curious grower, and very remarkable for its long tapering compressed and deeply nodose stem-like pseudobulbs. The flowers are large, white, tipped with rosy pink, in the same way as those of *D. Wardianum*, and they are produced in great profusion. It is a plant that takes but little room, and should be in every collection.—B. S. W.

Virginia Finch del et lith

CATTLEYA SUPERBA SPLENDENS.

CATTLEYA SUPERBA SPLENDENS.

[Plate 33.]

Native of Brazil in the region of the Rio Negro.

Epiphytal. *Stems* slender, subterete, furrowed, with distant nodes, nearly a foot in height. *Leaves* in pairs, ovate or ovate-oblong, obtuse, barely four inches in length, of a deep bluish green colour and stout coriaceous texture. *Scape* four to five-flowered, issuing from a terminal oblong obtuse compressed sheathing bract, of a pale brown colour, which is about two inches long and three-quarters of an inch broad. *Flowers* richly coloured, nearly six inches in breadth; *sepals* elliptic-lanceolate, plane, about two and a half inches long, of a deep rich purplish rose colour; *petals* of the same colour somewhat broader and longer, rhomboid, more or less undulated at the margin in the upper half; *lip* about two inches long, three-lobed, the basal lobes elongately connivent into a tube acute in front, of a rich magenta-crimson, white at the base, middle lobe transversely rounded, broader than long, emarginate, narrowed into a claw, the front portion of the same rich crimson colour, the disk and interior of the tube yellow, the former traversed by five elevated golden yellow lines. *Column* enclosed.

Cattleya superba splendens, *Lemaire, Illustration Horticole* xvi., t. 605; *Williams, Orchid Grower's Manual,* 4 ed., 127; 5 ed., 132.

The plant we are now about to describe is one of the most magnificent members of its genus, so far as regards the brilliant colouring of its flowers. This may be seen by a reference to the accompanying illustration, which was taken from a fine plant that flowered at the Victoria Nursery, and was subsequently purchased by William Lee, Esq., of Downside, Leatherhead. The plant was seen to great advantage when suspended in a basket from the roof of the Orchid-house, and in this position was greatly admired, by *connoisseurs* on account of its rich and brilliant colours. The plants of *Cattleya superba* vary considerably in the colour of their flowers, those of the original or type form being well represented in the first series of *Warner's Select Orchidaceous Plants* (t. 24), where a most beautiful spike with six of its really superb flowers is shown.

The variety which we now introduce to the notice of our readers—*Cattleya superba splendens*—is one of distinct character, and of unparalleled beauty. It comes from a different country, viz., the Rio Negro region of Para instead of Guiana. The plant is of compact growth like *C. superba,* and generally flowers during July and August; the stems (pseudobulbs) are ten to twelve inches in height; the leaves are produced in pairs, and are longer and more pointed, and its splendidly coloured flowers are produced four or five together in the spike from the top of

the stem when it is making its growth. The individual blossoms are as much as five inches across, and are well expanded, the sepals and petals being of a bright but delicate rose colour, and the lip white at the base, the front and side lobes rich magenta-crimson, the disk and interior of the tube being of a bright golden yellow. The plant continues in blossom for three or four weeks if the flowers are kept from damp; indeed, all Cattleya blooms retain their freshness for a longer period if kept dry, especially the large light-flowered forms of *C. Mossiæ*, *C. Trianæ*, *C. Mendelii*, &c., which soon become spotted if the atmosphere surrounding them is much charged with moisture.

Cattleya superba is not in general well cultivated, but we have seen some specimens which were grown with extraordinary skill and success in the select collection of O. Schneider, Esq., of Cromwell Grange, Fallowfield, near Manchester. These specimens, as many as nine in number, were suspended in baskets from the roof of the warm house. They were grown from imported plants, and we have noticed them in the same position growing and blooming freely for the past three years, and, as they succeed so well, we should certainly recommend their being retained in the same situation. It is a golden rule for cultivators that when a particular kind of plant is found to thrive in a certain position, it should be kept there, so long at least as the conditions are suitable. In the instance just referred to the plants were suspended close to the glass, where they enjoyed a great abundance of light, and this was possibly the secret of their success. Other important considerations are that the plants do not like to be disturbed and will not bear cutting up.

It is necessary at all times to keep sweet healthy material about the roots by removing the old effete soil and replacing it by that which is fresh and sound. We find rough fibrous peat and charcoal to suit it, but this must be accompanied by good drainage. We have seen them thrive well on blocks of wood, but when grown in this way they require more water. If cultivated in baskets they also need a good supply during the season of growth. In winter less will suffice, merely enough being given to keep the bulbs in a plump condition. As soon as they show signs of growth, more water should be given, but it is necessary to avoid wetting the young growths, as this often causes them to damp off, and when this is the case the succeeding growth will be weakly and unable to develop blossoms.

The plants should be kept free from insects; sometimes thrips will attack the young growths, but it should be speedily removed, as, if allowed to remain, it will soon make great havoc.

J.Nugent Fitch del et lith

PAPHINIA CRISTATA.

PAPHINIA CRISTATA.

[Plate 34.]

Native of Trinidad and Guiana.

Epiphytal. *Pseudobulbs* small, clustered, oblong-ovate, compressed, somewhat furrowed, bearing one to three leaves at the apex, and leaf-like scales at the base. *Leaves* oblong-lanceolate, plicate, submembranaceous, spreading, about eight inches in height. *Scapes* proceeding from the base of the pseudobulbs, pendent, two or three-flowered, clothed with loose brown membranaceous bracts. *Flowers* smooth, spreading, whitish on the outside, beautifully marked with purple lines within, about three and a half inches across; *sepals* lanceolate acute, fleshy, pale straw colour, almost entirely covered by thin transverse lines of chocolate-purple; *petals* similar in form and colour, but somewhat narrower; *lip* much smaller than the foregoing, fleshy, tripartite, almost entirely of a rich purplish black, ovate in outline, shortly unguiculate, with four stalked glands on the reddish orange purple-spotted claw, the lateral lobes sickle-shaped, the middle lobe rhomboidal, terminated by a tuft of club-shaped fimbriæ; disk crested, bidentate, with a few deep yellow spots down the centre. *Column* club-shaped, semiterete, greenish at the base, the upper portion auriculate, with a projecting tooth on each side, deep yellow.

Paphinia cristata, *Lindley, Botanical Register*, 1843, misc. 14; *Lyons, Treatise on Orchidaceous Plants*, 203; *Van Houtte, Flore des Serres*, iv., t. 335; *Hooker, Botanical Magazine*, t. 4836; *Reichenbach fil.*, in *Walpers' Annales Botanices Systematicæ*, vi., 614; *Williams, Orchid Grower's Manual*, 5 ed., 265; *Bateman, 2nd Century of Orchidaceous Plants*, t. 117.

Maxillaria cristata, *Lindley, Botanical Register*, t. 1811.

Paphinia is a genus of very limited extent, and of which but few species are at present known. That now before us is a very old and familiar species, one of the best known amongst them, and a singularly handsome little plant. It was the *Maxillaria cristata* of early Orchid days, and considerable quantities of it were formerly imported, but it has now become very rare. We have flowered several plants during the past year at the Victoria Nursery, where they were greatly admired by those who saw them. It is a plant which comparatively few persons interested in Orchids have met with in blossom, and of which our plate gives a very correct representation. The flowers are remarkably curious, not only for their structure, but also for their colouring, as will be seen by reference to our illustration. The plant has, moreover, a very peculiar mode of throwing out its flower-spikes.

We have also flowered *Paphinia rugosa*, another very singular and pretty plant, after the same style, but differing in colour, and well worth cultivation. They occupy

but little space in the Orchid-houses, and are best grown in small pans suspended near the glass where they have the full benefit of the light, but must be shaded from the sun since their thin-textured leaves would suffer injury from too complete an exposure.

Paphinia cristata is a low-growing plant, with small shiny pseudobulbs, and light green plicate foliage about eight inches in height. It is a free-blooming species, generally producing three flowers on a scape which proceeds from the base of the pseudobulb after that has completed its growth. The flowers last in beauty for about a fortnight, and are produced at different periods of the year. The sepals and petals are nearly covered with transverse parallel lines of dark chocolate-purple on a creamy yellow ground; the lip is coloured in a similar manner, and furnished with some curious tufted fringes.

These plants are not so easy to cultivate as some other Orchids; but, by bestowing on them a little extra care and attention, they may be kept in a thriving and healthy condition. We find them to grow best in small pans, nearly filled with drainage, and a lump of charcoal on the top of it; place the plant on the top of this with but little rough fibrous peat or live sphagnum moss about the roots, and so that it is elevated a little above the rim, as it has the peculiarity of throwing its flower-spike downwards.

This species is a native of Guiana, and of the adjacent island of Trinidad. In the latter it is found growing on decayed branches of trees in the neighbourhood of the mud lake. In the former it occurs in the warmer parts of Demerara, and, consequently, must be cultivated in the warm house, and kept in a moist atmosphere during the season of its growth; when at rest, however, a smaller quantity of water will suffice, but it should never be allowed to shrivel, as, when once its condition becomes bad, it is very difficult to restore its health.

Odontoglossum Alexandræ flaveolum.—Whoever expected ten years ago to see a yellow-flowered *Odontoglossum Alexandræ* (?) No one, we should think, unless it were by a great stretch of the imagination. However, here is one from the fine collection of G. Hardy, Esq., of Timperley, Manchester. The flowers in every respect resemble those of *O. Alexandræ*, except in their colour, which is a bright canary-yellow. The spike before us bears fifteen expanded flowers, and is one of the greatest surprises we have had the good fortune to meet with for a long time. It is true that distinct varieties of this "the Queen of Orchids" are turning up almost every day, but one seldom has a chance of seeing an entirely new break of colour of this sort. We believe that a variety with yellow flowers bloomed some time ago in the Broomfield collection, but the colour was not so decided in Mr. Warner's plant as it is in the case now before us.—B. S. W.

ODONTOGLOSSUM ANDERSONIANUM.

[Plate 35.]

Native of New Grenada.

Epiphytal. *Pseudobulbs* ligulate-pyriform, costate, two or three inches high. *Leaves* broadly linear, acute, about a foot long, of a light green colour, two from the top of each pseudobulb, with occasionally another from its base. *Scape* radical, spreading, more or less drooping, supporting a branching raceme about two feet long. *Flowers* resembling those of *Odontoglossum Alexandræ*, but smaller, prettily spotted; *sepals* ovate-oblong, acute, slightly crispy, creamy white, heavily and irregularly blotched on the lower half with bright chestnut-brown, the attenuated upper half unspotted; *petals* similar in form and colour, the blotches which are also on the lower half smaller, and more thickly placed; *lip* from a cuneate base, pandurate, narrow in front, apiculate, distinctly wavy and toothed, creamy white, yellow at the base, with fewer and smaller brown spots; disk deep yellow, with a prominent crest dividing in front into two divergent horns. *Column* greenish towards the base, brown in front, the wings and anther-case white.

Odontoglossum Andersonianum, *Reichenbach fil.*, in *Gardeners' Chronicle*, 1868, 599; *Id.* 1872, 41; *Floral Magazine*, 2 ser., t. 45.

The charming *Odontoglossum Andersonianum*, supposed to be a wild mule between *O. Alexandræ* (*crispum*) and *O. præstans* or *O. gloriosum*, is one of the many prettily spotted Odontoglots which have been introduced into our collections during the past few years, and among which new varieties are continually appearing. One of the best forms of this plant which has come under our notice is that represented in the accompanying plate, prepared from a very beautiful specimen which bloomed last year among many other fine Odontoglots, well cultivated in the collection of Messrs. William Thomson & Sons, of Clovenfords near Galashiels.

The *Odontoglossum Andersonianum* is a compact-growing plant, with pyriform pseudobulbs two to three inches high, pale green leaves, and gracefully drooping branched flower-spikes about two feet in length. The sepals and petals are at first creamy white, spotted with purplish brown, the lip being also white, but less heavily spotted. The plant is of free-blooming habit, the flowers continuing fresh and perfect for a period of five or six weeks. It is exceedingly difficult to recognize this form until it produces its blossoms, as its growth is remarkably similar to that of *O. Alexandræ*. Indeed there are many forms and varieties of this particular group which it is impossible to recognize until their flowers are seen; and, though cultivators may sometimes feel assured of the identity of individual plants, the production of flowers not unfrequently proves them to be mistaken.

Odontoglossum Andersonianum requires the same treatment as *O. Alexandræ* and other cool Orchids, also the same amount of water. The plants must have good fibrous peat to grow in, and plenty of drainage, as they need to be freely supplied with water all the year round, and this, if allowed to become stagnant, would prove very injurious to them. The material in which they are grown must also be clean and sweet; and though they must never be over-potted, sufficient space should be allowed for their roots. We have sometimes seen Odontoglots in pots far too large for them, and though this may tend to make the plants more important-looking, yet it will eventually spoil them, as the larger amount of soil becomes soddened with water, and this produces rotting of the roots.

Raised Blinds for Orchid Houses.—During the summer months we have found Raised Blinds very beneficial to the growth of Orchids, especially to those requiring cool-house culture. When the hot summer's sun is shining upon the glass, it is very difficult, were Raised Blinds are not employed, to keep the temperature sufficiently low. The glass roof of the structure upon which the sun is shining becomes very hot, even when shaded with ordinary blinds; but if Raised Blinds are used a current of air is allowed to pass over the entire surface of the roof, and the glass is kept comparatively cool. The effect of this is to decrease very appreciably the internal temperature of the house; and the moisture, which would otherwise be dried up by the burning heat of the sun, produces a nice humid genial atmosphere in which Orchids delight. Having thus far referred to the advantages to be derived from the use of this method of shading, we may now explain briefly the mode of construction. Supposing that the house to be furnished with Raised Blinds is an ordinary span-roofed structure, it is necessary in the first place to provide a second ridge elevated about six inches above the top of the existing one. This should not consist of a solid plank, but of a strip of timber sufficiently strong to bear the weight and strain of the blinds and roller, and should be supported on blocks of wood placed at intervals in order to allow the current of air from below to find an outlet, which would not be the case if a solid ridge-board were adopted. Having arranged for the ridge, the next thing is to provide supports for the rollers; either wood or iron may be used for this purpose, but we have found iron to be the lightest looking and the most durable. Where the length of the rafters does not exceed say eight feet, half-inch rod iron will be found to be strong enough, and this should be cut into proper lengths, with the lower end turned up in a semi-circular form, so as to catch the roller when it descends, and prevent it from running off the supports. These supporting rods should be fixed to the bars or rafters of the house, about six inches above the woodwork, by being welded to vertical iron stays, which latter should be flattened out at the base, and provided with holes so that they can be screwed to the rafters or bars of the roof. In this way a strong support for the blinds to roll upon will be formed; the blinds themselves can be attached to the elevated ridge in the ordinary way, and the gearing usually employed for the purpose will be found to answer well for pulling them up or down. Many Orchid growers have already adopted these Raised Blinds with very beneficial results.—B. S. W.

CYPRIPEDIUM POLITUM.

[Plate 36.]

Garden Hybrid.

Epiphytal. Acaulescent. *Leaves* radical, distichous, coriaceous, oblong, acute, palish green thickly chequered with dark bottle-green markings, the under side dull reddish purple. *Scapes* solitary in the leaf axils, pubescent, purplish, terminating in a lanceolate sharply keeled bract, from which the solitary blossom emerges. *Flowers* medium-sized, peculiar in form, rather showy; *dorsal sepals* ovate-acute, ciliate, the inner surface polished, suffused with reddish purple in the lower part, whitish towards the tip, traversed by numerous green veins of which the alternate ones are longer and stouter than the rest, all of them distinctly marked on the outer surface; *lateral connate sepals* smaller, ciliate, greenish white with green veins, rather shorter than the lip; *petals* linear-oblong, about two and a half inches in length, glossy, deflexed (more so than in the figure), ciliate with a fringe of unequal black hairs, bright wine-red, greenish towards the base, where it is marked with several Indian-purple warts most abundant near the upper edge, exterior surface green; *lip* narrowly pouch-shaped, nearly as long as the petals, suffused in front with the same purplish red tint, and marked thickly with green veins at the sides and back, the basal auricles erect, obtuse, interior surface green, dotted with wine-red, the incurved margins of the claw greenish yellow, with reddish spots. *Staminode* transverse, yellowish green, with two large exterior teeth in front and a small inner tooth, light brown with green markings.

Cypripedium politum, *Reichenbach fil.*, in *Gardeners' Chronicle*, n.s. xiv., 525.

This new Lady's Slipper is one of a batch raised some few years since by Robert Warner, Esq., of Broomfield, near Chelmsford, who has been successful in producing several very good forms by the process of hybridisation. The plants are of dwarf habit, free-growing, and free-blooming, each small growth bringing forth its flower. This *Cypripedium politum* has been flowered for several years past by Mr. Warner, and thus its characteristic features and its constancy are well ascertained. There are also some other distinct kinds obtained through the same cross, some of which we hope to figure on a future occasion. We should expect that the cross was made between *C. barbatum superbum* and *C. venustum.*

Cypripedium politum is a plant of compact habit and of free growth. The leaves are of a distinct and well-marked character, as will be seen in the very accurate portrait furnished by our artist. They are oblong, acute, about five inches long, and somewhat over an inch broad, of a beautiful light green, barred and chequered with a very deep or bottle-green, which gives it a very pleasing appearance; the under-surface is stained with a deep reddish wine-purple. The downy flower-scapes are also purple, some six to eight inches in height, each

supporting a solitary flower, in which the dorsal sepal is ovate, polished, flushed in the lower part with purplish red and spotted with purple at the base, the upper part white, and the whole traversed by bright green veins which are alternately long and short. The petals are oblong, broadest at the apex, of a bright wine-red, polished, with black hairs along the margin, and Indian-purple warts near the upper edge, greenish towards the base and along the lower edge. The pouch-shaped lip is nearly as long as the petals, purplish red with a coppery tinge, glossy, veined with green at the sides and back. The flowers are produced during January and February, a season when they are much in request for decorative purposes. The Cypripediums are very useful for furnishing a supply of cut flowers, as they will keep fresh for several weeks in water, and will last for at least six weeks on the plant.

These interesting plants are of easy cultivation, and occupy but little space, hence they may be accommodated in every small collection, and may be grown without much expense. The species and varieties forming the *barbatum* group, to which this plant belongs, all require similar treatment. They may be grown either in the Cattleya or East India house, and are best cultivated in pots. Some of our Orchid-growers prefer to plant them in sphagnum moss, others in peat; for ourselves, we prefer to use good fibrous peat, ample drainage being provided. We have seen them thrive well in fibrous loam. The plants must be kept above the rim of the pot, as they root freely over the surface of the rough material. Since they have no fleshy bulbs to support them, and their growth is continuous almost throughout the year, they require to be liberally supplied with water at the roots; for this reason the pots must be well drained.

Insects require to be constantly searched for. The scale sometimes appears upon the plants, but may easily be subjugated by sponging the surface with clean water. Their greatest enemy, however, is the red thrips, which must be hunted up and destroyed if the health of the plants is to be maintained, but it may be easily kept under if promptly, perseveringly, and vigorously attacked.

Dendrodium macrophyllum.—We have received two splendid spikes of this magnificent Dendrobe, with flowers of an unusually fine colour, from a well grown specimen, such as we might expect from so experienced a grower as Mr. Penny, of the Royal Gardens, Sandringham, who has been one of the most successful exhibitors of specimen Orchids at our London shows, where he has, with the large collections staged by him, carried off nearly all the leading prizes. We hope at some future period to be able to figure this fine Dendrobium, the sepals and petals of which are of a rose-magenta colour, and the lip of the same colour, with a purplish crimson throat. We received with the Dendrobe a fine spike of the white-lipped form of *Odontoglossum Hallii* in grand condition, the sepals and petals being of a very bright golden yellow with rich markings of a brownish crimson colour. This variety forms a splendid contrast with the white-flowered *O. Alexandræ* and *O. Pescatorei*, of which kinds there is a fine collection at Sandringham. The Prince of Wales is a great admirer of these as well as of other good Orchids.—B. S. W.

CYPRIPEDIUM CHLORONEURUM

CYPRIPEDIUM CHLORONEURUM.

[Plate 37.]

Garden Hybrid.

Epiphytal. Acaulescent. *Leaves* radical, distichous, coriaceous, oblong acute, closely tessellated with dark hieroglyphic markings on a light green ground, the under surface reddish purple. *Scapes* solitary in the central leaf-axils, pubescent, reddish purple, one-flowered, with a very short ovate bract. *Flowers* large, with expanded petals, rather attractive in colour; *dorsal sepal* broadly ovate, bright yellow-green with white margin, and a narrow purple central stripe, on each side of which are about four strongly marked dark green longitudinal veins, connected by finer transverse veins; *lateral (connate) sepals* small; *petals* oblong, broader upwards, two and a half inches long, and three-fourths of an inch wide, with green longitudinal veins, and a dark purple central line, on one side of which (the upper half) they are washed with wine-purple, and have a yellowish buff margin, and a few black warts near the base, where they are ciliated; on the other (lower) half very slightly tinted with purple, the cross veins more apparent, and the margin green; *lip* rather large, shortly pouch-shaped, heavily stained with wine-purple, and freely marked with bold reticulations of a darker purple, the upper angles yellowish at the margins. *Staminode* transversely reniform, pale green, with dark green feathery markings in front.

Cypripedium chloroneurum, *Reichenbach fil.*, in *Gardeners' Chronicle*, n.s., xiv., 525.

This is one of the most distinct of the new hybrid Lady's Slippers that have been recently introduced to the notice of Orchid-growers; it will also be appreciated as one of the most useful, being of a neat free-growing and abundant-blooming habit of growth. The Cypripediums are everybody's plants, that is to say, any one who has a place adapted for their cultivation can manage them without difficulty. Many growers make them their especial care and study, procuring every species and variety that can be obtained, and thus forming a very interesting and diverse group.

Our present subject was raised by Robert Warner, Esq., in whose collection at Broomfield it has been blooming very abundantly, and it was from Mr. Warner's plant that our drawing was taken. The variety resembles the one figured on plate 36 in being of free-blooming habit, and also in being very attractive in regard to its foliage as well as its flowers. Many hybrid Cypripediums have been raised in this country of late years by the Messrs. Veitch and Sons, and also by other growers. Some of these have proved to be very beautiful and effective subjects, and no doubt there are others coming forward that have not yet bloomed. Many splendid novelties may yet be gained by crossing those kinds that have flowers of distinct forms and colours, and, as many of the varieties bloom simultaneously, the hybridiser will find abundant opportunities for carrying out his plans.

These plants appear to be easily raised from seeds, and to reach the flowering stage sooner than most other seedling Orchids.

Some of the Cypripediums thrive well in a cool house, and by fertilising these with the best of the stove species, a new set of cool-house forms would probably be obtained. Such a result would be one of considerable importance to Orchidists, as no doubt, if varieties of a different character to those we already possess could be obtained, some of our enthusiastic growers would take up their cultivation in good earnest. At present the majority of the Lady's Slippers require a warm house.

Cypripedium chloroneurum is a dwarf compact-habited plant, with evergreen foliage about six inches in length, beautifully variegated with closely chequered markings of dark and light green. The flowers are produced in January and February, and continue on for several weeks. The colours are distinct and attractive, the broad flat dorsal sepal being of a bright lively pale green striped with darker green nerves and bordered with white, the petals suffused with purple on the upper half and marked with black marginal warts, and the purplish lip freely ornamented with bold dark purple reticulations, altogether presenting a remarkably effective appearance.

This novel hybrid grows freely when potted in rough fibrous peat with good drainage. When in vigorous growth it requires a liberal supply of water at the roots. Propagation is accomplished by dividing the plants after they have finished blooming and are ready to start into fresh growth; they can then be divided with safety by cutting off a back growth with a leading shoot in front of it, but care must be taken in cutting that the remaining portion of the plant is provided with an eye so placed as to break and form a new growth. When this young growth has been made, the divided plant may be shaken out from the old soil and potted. The offshoots should be placed in small pots until the following year, when, if they have made good growth, they may require to be repotted. They must be kept moist and in a plump condition, as they have only slender resources of their own to rely upon, but they root freely. As the plants get established they will require larger supplies of water, for which reason good drainage must be secured.

Aërides Leeanum.—This novelty has bloomed in the collection of G. W. L. Schofield, Esq., of New Hall, Hey, Rawtenstall, near Manchester, producing four flower-spikes. It is a beautiful object, its spikes of richly-coloured rosy pink blossoms hanging gracefully from the plant. It is very distinct from any other species of *Aërides*, and will doubtless become a great favourite. One of its great recommendations is that it blooms in the winter, which is not the case with the generality of these plants, their usual flowering season being during the spring and summer months. *A. Leeanum* is a small growing plant, but produces its spikes of blossoms very freely; and requiring, as it does, but a limited space for its accommodation, it will be a most useful introduction for amateur cultivators.—B. S. W.

DENDROBIUM BIGIBBUM.

DENDROBIUM BIGIBBUM.

[Plate 38.]

Native of Tropical North-east Australia.

Epiphytal. *Pseudobulbs* long, slender, erect, fusiform, one to two feet in length, closely invested between the nodes with dry light brown sheaths, the older ones swollen at the very base. *Leaves* oblong-lanceolate, sub-acuminate, five ribbed, of a deep green colour, and a somewhat coriaceous texture, a few only (five or six) being developed towards the extremities of the stems. *Racemes* erect or curving, six to twelve flowered, nearly a foot in length, usually produced from the upper nodes of the old leafless stems, but sometimes from the apex of the younger leafy stems. *Flowers* large, showy, rich rosy purple; *sepals* oblong acute, flat, of a rich purplish magenta, the lateral ones united at the base into a short blunt spur below the setting on of the lip, above which spur is a gibbosity, occasioned by a similar swelling at the base of the lip (whence comes the specific name *bigibbum*); *petals* large, roundish, spreading, recurved, of the same colour as the sepals; *lip* three-lobed, the lateral lobes incurved, the retuse middle lobe somewhat reflexed, rich crimson-purple veined with darker purple, the base decurrent and gibbose, and the disk with three white papillose crests. *Column* compressed, grooved, the back united with the sepal.

Dendrobium bigibbum, *Lindley*, in *Paxton's Flower Garden*, iii., 25, fig. 245; *Hooker, Botanical Magazine*, t. 4898; *Walpers' Annales Botanices Systematicæ*, vi., 302; *Warner, Select Orchidaceous Plants*, 2 ser. t. 8; *Van Houtte, Flore des Serres*, xi., t. 1143; *Bateman, Second Century of Orchidaceous Plants*, t. 169; *Williams, Orchid Growers' Manual*, 5 ed., 165.

This plant belongs to one of the most noble and popular, one of the most showy and beautiful genera of the whole family of Orchids, and one among the flowers of which nearly every colour occurs—bright yellow, pure white, rich crimson, bright purple, soft mauve, rich orange, nankeen, and many others being found among the many and various habited species of Dendrobes.

Dendrobium bigibbum, the subject of our plate, is a species of a remarkably beautiful and showy character, which, until within the last few years, has been somewhat rare. In 1876, however, we received a large consignment from our collector, Mr. Goldie, who was then on his way to New Guinea, and who met with it growing on an island in Torres Straits, it having hitherto, we believe, been found only on the mainland of Australia. These plants were very fine, some of the specimens being of enormous dimensions, with stems quite two feet long, and from one and a-half to two inches in circumference. The specimens from which our figure of one of the most charming forms of this species which we have yet seen, was prepared, were kindly sent to us from the fine collection of the Marquess of Lothian, at Newbattle Abbey,

Dalkeith, where it bloomed in September last in full beauty, amongst many other notable Orchids which are well cultivated by the intelligent gardener, Mr. Priest, who takes great delight in the careful management of his plants.

This species of *Dendrobium* is partially deciduous, the fully ripened stems sometimes losing the whole of their foliage, while the young growths retain their leaves until the following year. It grows from one to two feet in height, and produces its racemes of flowers sometimes from the top of the young growths, and sometimes from the old stems, in the latter case often bearing many spikes on the same stem. The flowers are of a rich rosy purple, and last in perfection for a considerable period. It is a most useful subject for associating with a button-hole bouquet, single flowers being shown off to great advantage by placing a light-looking fern frond behind them. The racemes of flowers last a long time after being cut if placed in water, and are most useful in all floral decorations. By growing several plants, successional blooms may be had at different periods.

This Tropical Australian species is best grown in a warm house, as the plants require a good amount of heat—70° to 80° while growing—and plenty of light, but the burning rays of the sun must be kept from them. They thrive best when planted in pans or baskets amongst rough fibrous peat and sphagnum moss, and suspended from the roof of the Orchid house. During the summer season they require a liberal supply of water, but in winter should have only sufficient to keep the stems plump. The plant will also succeed on blocks of wood, but, if grown in this way, it will in hot weather need watering twice a day, and once a day at other times. Some cultivators have been unsuccessful with this species, but we have found it to thrive well in a house where Crotons, Dipladenias, Stephanotis, etc., are grown; the Dendrobes seem to enjoy the moisture transmitted to them by the stove plants which are generally syringed in warm weather, and the dew arising from this operation appears to suit the Orchid. The syringe is also useful in subduing the red spider, which will sometimes attack the young growth. Insects often infest those kinds of *Dendrobium* that are grown in strong heat, but they must by this and other means be kept under.

Such treatment suits almost all the popular Dendrobes, namely, *D. Devonianum*, *D. Wardianum superbum*, *D. chrysanthum*, *D. superbum (macrophyllum)*, *D. crassinode*, etc.; and the plants are found to be much stronger by reason of hanging near the glass well exposed to light, in which position they can be syringed on warm days—this moistening not only invigorating their growth, but being also a means of keeping insects under control.

PHALÆNOPSIS STUARTIANA NOBILIS

PHALÆNOPSIS STUARTIANA NOBILIS.

[Plate 39.]

Native of the East.

Epiphytal. Acaulescent, the plants clinging to their supports by stout flattened roots. *Leaves* coriaceous, distichous, ligulate-oblong, acute, channelled, equitant at the base, the upper surface marbled with transverse grey blotches which disappear with age, the under surface purplish red, similar in size to those of *Phalænopsis Schilleriana*. *Scape* radical, bearing a many-flowered (120 or more) branching panicle of very handsomely and peculiarly spotted blossoms. *Flowers* nearly three inches across, expanded, cream-coloured at first, becoming white; *sepals* oblong, or ovate-oblong, about an inch in length, the dorsal one white, the lateral ones white along the upper side, the lower side being yellow thickly spotted with cinnamon-red; *petals* much broader, narrowed near the base, white; *lip* three-lobed, with a four-horned yellow callosity at its base, the lateral lobes oblong, rounded, the middle lobe oval, with an anchor-like extremity, the apex terminating in a pair of narrow recurved laciniæ, all the lobes yellow at the base, white upwards and handsomely spotted with rich cinnamon-red. *Column* clavate, white.

Phalænopsis Stuartiana, *Reichenbach fil.*, in *Gardeners' Chronicle*, n.s. xvi., 748, 753, fig. 149; *Moore, Florist and Pomologist*, 1882, 49, t. 559.

Var. nobilis; flowers larger in all their parts, marked with fewer and larger spots; front lobe of the lip rhombic.

Phalænopsis Stuartiana *var.* nobilis, *Reichenbach fil.*, in *Gardeners' Chronicle*, n.s. xvi., 748.

There can be no doubt that the species of *Phalænopsis* rank amongst our finest Orchids, on account of the purity and soft tinting of their blossoms and the profusion in which they are produced. Unfortunately, at present, we only possess a limited number of them. During the last few years, indeed, many new kinds, which are giving a fresh interest to the genus, have been introduced by our collectors; and, although it is barely possible that any new introduction should surpass the old species, yet it is gratifying to know that there are yet to be found distinct and novel kinds of great beauty. *P. Stuartiana*, which we now bring under the notice of our readers, is a very fine and well-marked species, recently imported from the East by Messrs. Low & Co., of Upper Clapton, and named by Professor Reichenbach in honour of Mr. Stuart Low, who is one of the largest importers of this class of Orchids. Our plate, which represents the variety called *P. Stuartiana nobilis*, was sketched from a plant now in the fine collection of William Lee, Esq., of Downside, Leatherhead, who purchased it when in full beauty from the Messrs. Low, and we have to thank Mr. Lee for his kindness in allowing the drawing to be made. It is to be hoped

that collectors may find more of it in its native country, although we believe it to be very rare, and, like many other recent discoveries to be probably a natural hybrid produced by insect fertilisation. We have no doubt that there are yet many fine forms of *Phalænopsis;* and if we could but obtain the scarlet one, which some years ago was reported to have been seen by a collector who was not able to bring it home, what a grand acquisition that would be!

Phalænopsis Stuartiana nobilis resembles *P. Schilleriana* in the young growth, its newly developed leaves being of the same shape and colour and similarly spotted, but the older leaves assume more of the character of *P. amabilis;* while the flowers, instead of being mauve-coloured, are pure white, with the inferior halves of the lateral sepals yellow and boldly spotted with cinnamon-red, as also is a portion of the lip, the side lobes of which bear smaller and more closely set spots. We have little doubt that this plant is a wild hybrid between *P. Schilleriana* and *P. amabilis*, as though the young leaves come spotted, they afterwards change to the colour of those of *P. amabilis*, as already described.

This plant requires the same treatment as *P. Schilleriana*, and is best grown among sphagnum moss in baskets suspended from the roof, care being taken to give it a good supply of water during the growing season. It should have the heat of the East India house, and should at all times be kept moist at the roots, for if allowed to become dry, it will loose its lower leaves. If the plants are in a healthy and free-growing condition, flowering does not injure them; but, if at all sickly, they should not be allowed to blossom until they regain strength and vigour, as they are naturally free-flowering plants, and under such circumstances might bloom themselves to death. The moss about their roots must be sweet and in a living state; when it becomes decayed it should be removed, the roots washed, and the plant replaced in clean live moss with fresh free drainage, so that the water, of which a considerable quantity is required, may never become stagnant. Shading is an important element in the successful cultivation of these plants; therefore the sun, when at its full power in summer, must never be allowed to shine upon them, but in winter a little sun-heat is beneficial, and they then require all the light which it is possible to give them. Neither drip, nor water in any other form, must be suffered to reach the hearts of the plants, as it causes them to rot.

Insects are troublesome at times. The thrips, if allowed to multiply, will greatly disfigure the plants, causing damage by depriving them of the juices which should go to sustain their vigour. When free from such pests, and in a healthy condition, the leaves of the Phalænopsids have a pleasing appearance; and, if they are well looked after, it will not be difficult to keep them clean, the more especially as being of large size, they can be readily operated upon.

J Nugent Fitch del et lith.

ODONTOGLOSSUM KRAMERII.

ODONTOGLOSSUM KRAMERI.

[Plate 40.]

Native of Costa Rica.

Epiphytal. *Pseudobulbs* nearly orbicular, much compressed, ancipitous or sharply two-edged, one and a-half inch in diameter, pale green. *Leaves* solitary, oblong-lanceolate, acute, keeled, six to eight inches long, one and a-half to two inches broad, light green, with a smooth even surface. *Scapes* radical, four to six inches long, shorter than the leaves, three to five flowered, drooping or ascending, flexuous, pale green, with small appressed bracts and longish peduncles. *Flowers* one and a-half inch or more across, and delicately coloured; *sepals* oblong acute, rosy lilac with a white margin; *petals* about equalling the sepals in size, and similar to them in form and colour; *lip* with a short stout neck, deeply hollowed in front, with two erect calli, the lateral lobes semi-ovate, narrow, deflexed, the much larger middle lobe three-fourths of an inch broad, roundish reniform, emarginate, bearing at the base a pair of erect lamellæ, the unguis or neck yellow spotted with red, the front lobe deep rosy lilac, marked near its base with two semi-circular bands of white and purplish rose. *Column* short, thick, white in front.

Odontoglossum Krameri, *Reichenbach fil.*, in *Gardeners' Chronicle*, 1868, 98. with woodcut; *Hooker fil.*, *Botanical Magazine*, t. 5778; *Bateman*, *Monograph of Odontoglossum*, t. 24; *Williams*, *Orchid Growers' Manual*, 5 ed., 236; *Floral Magazine*, t. 406. (as O. Kremeri.)

This is a most charming small-growing Orchid, with remarkably pretty delicately coloured flowers. It is at the present time very rare in collections, and, in fact, had become almost lost to cultivation, but fortunately during the last year a small number of plants was imported into this country and distributed. Our drawing was made from a plant which formed part of this importation, and which produced its chastely coloured blossoms in the Victoria Nursery. Many years ago we remember to have seen a fine lot imported by the late George Ure Skinner, Esq., but since then it has until last year disappeared from our notice. We are, however, glad to see it again making its appearance in our Orchid-houses; for, as will be seen by reference to our illustration, it is a plant of a most distinct and pleasing character, and will be a real acquisition to the group of Odontoglots, of which numerous highly popular species are at present in cultivation.

Odontoglossum Krameri is a plant of compact-growing habit, with small flattened light green pseudobulbs, each producing from the top a solitary leaf of a pale green colour. The plant generally attains about ten inches in height. The flower spikes or peduncles are freely produced from the base of the pseudobulbs after they have completed their

growth, several flowers being produced on each peduncle. The sepals and petals are of a rosy lilac colour, margined with white; the lip is also rosy lilac, but of a darker shade, flushed with yellow and marked and spotted with purple at the neck, and having two semi-circular bands of dark purplish rose and white near the base. The plants continue in bloom for several weeks.

We have found this species to thrive well in the Cattleya house, planted in small pans or pots with good peat and sphagnum moss. It might possibly do in a cooler structure, but we have as yet only cultivated it in the Cattleya house, and this treatment has been found to suit it. It requires to be kept moist during the growing season, but when at rest should have only just sufficient water to keep it in a plump condition. The plant possesses one great advantage—that of blooming during the autumn months, when such flowers are so much in request. It has also another good quality—that of occupying but a small space, so that any cultivator who has a spare niche in his Orchid house can grow it without any inconvenience.

Cattleya Trianæ.—R. B. Dodgson, Esq., of Blackburn, has kindly sent us a wonderfully fine series of flowers of the different varieties of *C. Trianæ*, including some of the grandest that have yet come under our notice. Of two or three of these our Artist is preparing plates, which will be issued in due course in the *Orchid Album*. The variety named *C. Trianæ Dodgsoni* bears most beautiful flowers, which are quite distinct from all that we have previously seen, the sepals and petals being large, and of a pure white, while the lip is of a rich magenta colour, with the throat rich orange, white in the upper part. *C. Trianæ Osmani* is also a very fine variety, the flowers being rich in colour, the sepals and petals rosy pink, and the lip large, of a bright magenta colour; it is in fact altogether a wonderfully fine flower. There were several other varieties sent, including one which we have selected as the original *C. Trianæ*; this we shall first bring under the notice of our readers, and the other two will follow.—B. S. W.

Mr. Dorman's Orchids.—When visiting this grand collection last month (March) we noticed the rare *Epidendrum Wallisii* in flower. Mr. Coningsby, the gardener, informed us that the flowers on this plant had been open since November, and they still looked fresh. *Lælia flava* was also good. *Galeandra Devoniana*, a plant one seldom sees in bloom, was quite at home here, flowering and growing luxuriantly. *Lycaste Skinneri alba*, with its pure white flowers looked very charming; this was an extra fine variety, with flowers as large as any we remember to have seen. In addition to these there were many fine things in flower, which space will not permit us to mention. Mr. Dorman's Orchids are looking remarkably well, and are well cared for, both employer and gardener being enthusiastically fond of them.—H. W.

J. Nugent Fitch del. et lith.

ANGRÆCUM EBURNEUM.

ANGRÆCUM EBURNEUM.

[Plate 41.]

Native of Madagascar and Bourbon.

Epiphytal. *Stem* erect, leafy, producing roots from the lower part and from between the bases of the lower leaves. *Leaves* distichous, ligulate, very oblique at the apex, coriaceous, of a shining green colour, striated, about two inches broad, carinate below and overlapping each other at the base. *Peduncles* axillary, furnished with dark sheathing scales, and bearing an erect spike of numerous large flowers of peculiar form and appearance, all pointing in one direction and placed alternately back to back in a distichous or two-ranked manner. *Flowers* of a thick fleshy texture, green, with a broad conspicuous white lip; *sepals* and *petals* lanceolate, pale green, the dorsal sepal and the petals reflexed, the lateral sepals patent; *lip* large, broadly cordate, cuspidate, ivory white, the centre concave, and bearing a cleft acuminated ridge; *spur* tapering, considerably longer than and parallel with the dorsal sepal, dark green. *Column* short, thick, greenish white.

Angræcum eburneum, *Du Petit-Thouars, Orchidées des Iles Australes d'Afrique*, t. 65; *Lindley, Botanical Register*, t. 1522; *Hooker, Botanical Magazine*, t. 4761; *Paxton's Magazine of Botany*, xvi., 90, with woodcut; *Bateman, 2nd Century of Orchidaceous Plants*, t. 111; *Gardeners' Chronicle*, 1873, 216, fig. 46; *Williams, Orchid Grower's Manual*, 5 ed., 88, with woodcut.

Angræcum superbum, *Du Petit-Thouars, Orchidées*, tt. 62-4.

Limodorum eburneum, *Bory, Voyage*, i., 359; t. 19.

A grand Orchid which was first introduced to this country from Madagascar by the Horticultural Society of London, through their collector, Mr. Forbes, in the third decade of the present century, that is, more than fifty years since. It is, without doubt, one of the finest of the species, and when well grown forms a noble plant, its long spikes of attractive flowers, in company with its bold and characteristic foliage and its majestic habit of growth, imparting to it an aspect of dignity which no one can fail to recognise. Indeed, the magnificent appearance it has when placed on the central stage of the East India house is quite sufficient to win for it the favour of Orchid fanciers.

Wherever space can be given to it, it should always be grown, as it blooms during the winter months and continues in perfection for many weeks longer than any other of its family that has come under our notice. Our drawing was taken from a very fine specimen, producing three well developed spikes, in the collection of D. B. Crawshay, Esq., Rosefield, Sevenoaks, Kent, who is a great lover of Orchids, and is forming a nice collection of them.

Angræcum eburneum is, as we have before noted, from Madagascar, and consequently requires the heat of the East India house. It is of comparatively easy cultivation. The strap-shaped leaves grow to about eighteen inches in length, and are of a pleasant glossy, light green colour; the flower spikes are produced from the leaf axils on each side of the stem, and extend to the length of eighteen inches, bearing many flowers of which the broad cordate lip is of a conspicuous ivory white. The plants will sometimes produce as many as four spikes at one time. The blooming period is in December, January, and February.

There is in cultivation another variety of *Angræcum eburneum*, called *virens*, but is not nearly so handsome and effective a plant as the type, its flowers being of a greenish white, but the spike has a somewhat more graceful contour, and the foliage is of a dark green colour, so that it also is worth cultivating where room can be found for its accommodation.

The Angræcums form a very interesting genus in the great Orchid family; and although amongst those that have bloomed in this country there are not many that we consider to be worth growing as ornamental plants, yet some, on the other hand, are very beautiful, and these we hope to be able to figure in due course. There have been several new introductions of late, and no doubt there are many yet to be acquired. We are glad to notice that Sir Trevor Lawrence is getting up a collection of all the best kinds, but it is found that some of them are difficult to obtain, and they are none of them so readily imported alive as many other Orchids are. They are mostly found growing on trees in their native country, different species being met with on the same trees. It was very interesting to hear the late Rev. W. Ellis talk of these plants, of which many years ago he brought home living specimens of some of the most beautiful of the species, such as *Angræcum sesquipedale*, *A. Ellisii*, and others.

Angræcum eburneum is best cultivated in a pot as it is a large growing plant, and produces thick fleshy roots. We find sphagnum moss to suit it well, but it must have good drainage as it requires a liberal supply of water during the summer months, for if it be allowed to shrivel the bottom leaves wither and decay; in the winter, on the other hand, it should have merely sufficient to keep the moss damp and the plant in a plump condition. It requires the same general treatment as the large growing Vandas, such as *Vanda suavis*, *V. tricolor*, and others. The plants are not subject to the attacks of insects, their thick fleshy leaves appearing to have no attraction for these pests.

Cattleya Trianæ.—We have received from E. Wright, Esq., Gravelly Hill, Birmingham, a very fine form of this splendid *Cattleya*; the flowers were six inches in diameter, the sepals and petals broad and of a rosy pink colour, the lip of a rich magenta and beautifully fringed, having the throat bright orange colour and the upper part rose-pink. It is altogether a desirable and charming flower. The varieties of this species are very useful, as they bloom in winter, when there are but few other Cattleyas in flower.—B. S. W.

J. Nugent Fitch del. et lith

DENDROBIUM MACROPHYLLUM

DENDROBIUM SUPERBUM [MACROPHYLLUM].

[Plate 42.]

Native of the Philippine Islands.

Epiphytal. *Stems* (pseudobulbs) stout, cylindrical, striated, the nodes of the flowering ones marked by the persistent scarious sheathing bases of the fallen leaves, drooping, and often attaining considerable length. *Leaves* alternate elliptic-oblong, acute or obtuse, subcordate at the base, nervose, thin in texture, two-ribbed. *Flowers* very numerous, usually in pairs from the joints of the stems, which form long floral wreaths; *sepals* lanceolate, plane, the lateral ones produced at the base, of a deep rich purplish magenta, varying in intensity in different forms; *petals* broadly oblong-ovate, somewhat undulated, of the same colour as the sepals; *lip* pubescent, cordate-ovate, acuminate, convolute at the base, so that with the extended front lobe it assumes something of the shape of an oblique-mouthed funnel, the margin denticulate, the basal portion of an intense sanguineous purple, appearing like two deep blotches; the front lobe purplish magenta, marked with longitudinal ribs, connected with finer transverse veins of a deeper purple, and having a transverse three-lobed callosity. *Column* short, included.

Dendrobium superbum, *Reichenbach fil. MSS.*; *Id.*, *Walpers' Annales Botanices Systematicæ*, vi., 282; *Williams, Orchid Grower's Manual*, 5 ed., 180.

Dendrobium macrophyllum, *Lindley, Botanical Register*, 1839, misc. 46; 1844, misc. 62; *Id. Sertum Orchidaceum*, t. 35; *Pescatorea*, t. 40; *Paxton's Magazine of Botany*, viii., 97.

Dendrobium macranthum, *Hooker, Botanical Magazine*, t. 3970; *Planchon* in *Flore des Serres*, viii., t. 757.

This is a magnificent Orchid, especially in the case of its finer varieties, whether superior on the score of size or colouration. It was first bloomed by the Messrs. Loddiges in 1839, in their wonderful plant emporium at Hackney, having been introduced by them from the Philippine Islands. A grand variety called *giganteum*, having flowers of immense size, is figured in Mr. R. Warner's *Select Orchidaceous Plants* (1 ser., t. 26); and in respect to colour, the form of which we now give an illustration, is one of the richest and most effective we have yet seen. The materials from which our figure was prepared were obligingly sent to us by Mr. C. Penny, gardener to H.R.H. the Prince of Wales, at Sandringham. It will be at once seen that the specimen in question was a well-grown example, and we understand that the plant yielded two similarly well furnished wreaths, bearing as many as forty blossoms. Besides this there are many other Orchids of superior merit to be seen in the collection at Sandringham gardens, these plants, the magnates of the vegetable world, being highly appreciated both by the Prince and the Princess of Wales.

The Dendrobiums are among the most beautiful and charming of our Indian Orchids, many of the species being of a most graceful habit of growth, and by their brightly coloured flowers imparting a remarkably picturesque character to our Orchid houses. Some of them, moreover, have delicately fragrant blossoms. In very many cases they bloom most profusely, and with their long pendent stems look well suspended from the roof of the house. Our present subject belongs to this latter class, and is one of the most showy and beautiful of the species.

Dendrobium superbum, which is more commonly known in gardens as *Dendrobium macrophyllum*, is a deciduous plant, losing its foliage just as it begins to blossom. It is a noble object when growing, producing stems from two to three feet long, furnished along each side with flowers growing in pairs; these flowers are four inches across, with sepals and petals of a lively magenta-rose, and a lip similar in colour, but with a purplish crimson throat. It blooms during February and March, the individual blossoms lasting about a fortnight in beauty. It thrives best when grown in a basket, and suspended from the roof. If hung up when in blossom, amongst the foliage of the other plants, the flowers are shown off to greater advantage, as it naturally blooms without foliage. It grows well in the East India Orchid house, and requires a good amount of heat and moisture during its growing season. After growth is completed it will do well in the Cattleya house during the dormant period, and when it begins to show its flower buds a little water may be given to induce the buds to swell and develop fine flowers. When the flowering season is over it may, if required, be placed in fresh sphagnum moss. It is a free growing plant, and thrives best suspended near the glass in the full light, but shaded from the burning sun. It is, indeed, absolutely necessary to give it all the light possible; and, in summer, a slight syringing when the house is closed will tend to keep the red spider and thrips in check.

Dendrobium Hillii.—There is in the collection of R. Wyatt, Esq., Lake House, Cheltenham, a very fine specimen of this cool Orchid, which has been bearing numerous spikes of blossom, some of the spikes being as much as twenty inches in length. The specimen was a most beautiful object, with its long racemes of creamy white blossoms, which proceed from the apices of its thick fleshy pseudobulbs; it has, moreover, dark green foliage. This plant was growing in the conservatory, and had continued in bloom for about two months, so that it is a most useful subject for winter decoration. It is a very old Orchid, but is worth cultivating, especially as it will grow in a conservatory or in any cool house. There was also in the same collection a very fine variety of *Cypripedium villosum*, one of the best we have seen, the flowers being wonderfully bright in colour, and of large size. Of *Lycaste Skinneri* there was a well-grown plant, with very fine flowers, the sepals and petals being broad and pure white, and the front portion of the lip bright magenta, with the throat white.

J.Nugent Fitch del.et lith.

J Nugent F

ODONTOGLOSSUM ALEXANDRÆ FLAVEOLUM.

ODONTOGLOSSUM ALEXANDRÆ FLAVEOLUM.

[Plate 43.]

Native of New Grenada.

Epiphytal. *Pseudobulbs* ovate, compressed, one or two leaved. *Leaves* elongate, oblong-lanceolate, acute, of a bright green colour. *Scape* radical, supporting a many-flowered raceme (or panicle) of showy flowers, each subtended by a small ovate-oblong acute bract. *Flowers* large, differing from other known forms of the species by their yellow colour, about three inches across; *sepals* ovate-lanceolate, acute, slightly wavy at the edges, pale sulphur-yellow; *petals* ovate, much undulated at the margins and irregularly toothed, of the same pale yellow as the sepals; *lip* oblong, the apex truncately rounded and cuspidate, the margins undulated and fimbriated, and the basal angles rounded and produced, all of a bright yellow colour, marked near the centre with about three conspicuous round reddish brown spots, and at the base with fine radiating lines of the same colour, in front of which are two divergent bars or crests. *Column* arcuate, club-shaped, pale yellow behind, dull brown on the inner face, and furnished with the usual toothed wings at the edge.

Odontoglossum Alexandræ flaveolum, *supra.*

Odontoglossum crispum flaveolum, *Reichenbach fil.*, in *Gardeners' Chronicle*, n.s. xiii., 41, 232.

This very distinct variety is one which will become very useful in the decoration of our cool Orchid houses, for as the white-flowered varieties of *Odontoglossum Alexandræ* and other species are now so numerous, that now before us, being yellow, will produce a good contrast, which we must have in order to make a pleasing display. Our drawing was taken from a fine example in the collection of G. Hardy, Esq., Pickering Lodge, Timperley, near Manchester. We may add that Mr. Hardy's is one of the largest and best collections in the North of England, since he spares neither trouble nor expense in procuring the best varieties that can be obtained. As a proof of this we may refer to the recent Manchester Whitsuntide flower shows, where Orchids are one of the prominent features, and where Mr. Hardy's collection has frequently taken high honours.

Odontoglossum Alexandræ flaveolum is a compact free-growing plant, like *O. Alexandræ* itself, and produces fine drooping flower spikes which we have seen bearing fifteen expanded bright creamy yellow flowers, these continuing in beauty for several weeks. This variety is all the more useful because of its blooming in the winter months when so many of our white Odontoglots are also in flower. The plant requires the same treatment as others of its class. It was found growing on the branches of trees intermixed with *Odontoglossum Alexandræ*, and no doubt, as is

probably the case with others of the so-called new varieties, it has originated by intercrossing with some allied species, which may have been growing near to it, and has been flowering at the same time. We hope shortly to give an illustration of the original or typical form of *O. Alexandræ.*

The best material in which to grow the Odontoglots is fibrous peat; they must have good drainage because they want plenty of water during the growing season, in fact the material should always be kept moist. The plants must never be over-potted, but just sufficient root room must be permitted them to secure healthy progression; over-potting, indeed, often becomes dangerous. We find that live sphagnum moss placed on the top of the peat is a great help in their cultivation, as it holds water, and there is always some degree of moisture arising from it; moreover, when it is kept in a healthy growing state it has a very neat and pleasing appearance.

Odontoglossums at Trentham.—The *régime* adopted at Trentham for growing Cool Orchids, such as Odontoglots, is to give them water most profusely, the cold rain-water which falls from the roof being used summer and winter, and to allow fresh air to circulate freely amongst them at all times, night and day, except in very severe weather. The natural water at Trentham, as does any other water containing lime, will, after a time, kill the Sphagnum used for potting purposes, and this is most inimical to the plants, which never thrive so well as when the Sphagnum keeps fresh and in a growing state. In respect to the Sphagnum Moss used for Orchid growing, it does not appear to be generally known that amongst the different species the best for potting Odontoglots and similar plants is a dense-growing compact kind, whose very compactness gives it a sponge-like consistency, and enables it to suck up and retain water freely. This is what the Odontoglots like.—T. M.

Odontoglossum Roezlii.—A fine example of this showy Orchid has reached us from D. Todd, Esq., Eastwood Park, near Glasgow. The spike was a particularly fine one, bearing well-developed flowers, of which the sepals and petals were white, the lower part of the latter being of a dark magenta, and the lip white, coloured with lines of crimson on the disk. Mr. Todd grows these plants remarkably well, and deserves great credit for his felicitous treatment of them, as few persons are so successful in their cultivation. There is a very good collection of Orchids forming at this place, Mr. Todd being an admirer of good kinds. At the Glasgow exhibitions his fine collection forms one of the greatest attractions of the show.—B. S. W.

Nugent Fitch del et lith

LÆLIA ANCEPS DAWSONII

LÆLIA ANCEPS DAWSONI.

[Plate 44.]

Native of Juquila in Mexico.

Epiphytal. *Pseudobulbs* oblong-ovate, four to five inches long, compressed and two-edged, with prominent angles on the flattened sides so as to render them tetraquetrous, clothed with large membranaceous scales. *Leaves* one or two from each pseudobulb, oblong-lanceolate acute, coriaceous, smooth and glossy on the surface, of a rich deep green colour, *Scape* rising from between the leaves at the apex of the pseudobulb, two to three feet long, ancipitous, clothed with carinate bracts, and bearing about three large and charmingly beautiful blossoms. *Flowers* large, measuring about four and a-half inches across; *sepals* lanceolate, acuminate, white; *petals* ovate, acuminate, white; *lip* prominent, three-lobed: the lateral lobes convolute over the column, white at the margin, stained with rosy purple exteriorly, and marked with numerous bright purple branched lines within the closed portion, where there is also a yellow ridge lined with purple which passes out into the base of the front lobe in the form of three yellow crests; the front lobe oblong acute, recurved at the tip, the base white, the rest of the lobe (about three-fourths of its surface) of a deep rich magenta-purple, evenly but narrowly bordered with white. *Column* enclosed.

Lælia anceps Dawsoni, *Anderson*, in *Gardeners' Chronicle*, 1868, 27; *Reichenbach fil.*, in *Gardeners' Chronicle*, 1873, 254; *Warner, Select Orchidaceous Plants*, 2 ser., t. 34; *Jennings, Orchids*, t. 6; *Floral Magazine*, t. 530; *Williams, Orchid Grower's Manual*, 5 ed., 202.

Lælia anceps Dawsoniana, *Rand, Orchids*, 296.

This is one of the most chaste and beautiful Orchids of its class. The type, *Lælia anceps*, has flowers of a rosy lilac and deep purple colour, while the one before us is pure white with the exception of the lip, which is of a rich sparkling purple, and makes a splendid contrast.

This variety was imported many years ago by the Messrs. Low & Co., of Clapton. There have been several other white forms flowered lately, but none to equal the one represented in our plate, the drawing of which was taken from a very fine specimen bearing four spikes, growing in the rich collection of R. B. Dodgson, Esq., of Blackburn; it was the finest plant we have seen in bloom, and the production of so grand a specimen reflects great credit on Mr. Osman, the Gardener, for his skill in cultivation.

Lælia anceps Dawsoni is, like the type form, of compact-growing habit. The pseudobulbs are from four to six inches in height, and the foliage of a light green colour. The flower spike is developed at the tip of the pseudobulb after it has completed its growth, and attains to about two feet in length, generally bearing two

or three blossoms at the end; the sepals and petals are pure white, of good form and substance, and the lip is of a dark rosy purple edged with white, the disk orange coloured, the lower part of the throat pale orange veined with crimson, and the upper part white. It generally blooms in January and February, and continues in perfection for two and three weeks.

This variety must be very rare in its native habitat, as we have received importations on several occasions purporting to be this white form, but after the plants have been grown on and flowered, they have invariably proved to be the type with rosy-coloured flowers. This is also the experience of other importers of Orchids.

The plant is best grown in a pot or basket suspended from the roof, where it can obtain all the light possible, which induces it to grow with greater vigour and to flower more freely. It thrives well in the Cattleya house with a moderate supply of water in the growing season, but when at rest less water will suffice. We have found good rough fibrous peat to be the most advantageous material in which to grow it, allowing ample drainage; and when fresh potting material is required the operation of supplying it should be performed just as the plant begins to grow, which is after the blooming season. Always bear in mind that the plants must be kept free from insects.

Propagation is effected by dividing the plant just as it begins to break into growth. In performing the operation two or three pseudobulbs should be detached from the plant, having a leading bulb; when taken off at this stage the plants soon become established.

Dendrobium Wardianum.—A fine variety of this grand Dendrobe comes from D. Alroy Salamon, Esq., Clapham Park. The specimen has very large flowers, four and a-half inches in diameter, and of great substance. The sepals and petals are one and a-quarter inch broad, of a pure white, heavily tipped with rich magenta; the lip is very large, and also heavily blotched with magenta, the throat being rich orange with two dark brown eye-like spots. These flowers were from an imported plant, and we are curious to see whether it will produce equally fine flowers from the home made growths. If so we shall hope to figure it at some future time, as in the state in which it has just bloomed, it is certainly one of the finest and best forms of this splendid species which we have met with. It is also a free grower.—B. S. W.

Dendrobium Falconeri.—Mr. Priest, Gardener to the Marquis of Lothian, has sent us some fine flowers of this favourite Dendrobe. He informs us that the plant from which the flowers were taken has 150 blossoms upon it. This must be a remarkably fine specimen, and well cultivated, to produce flowers in such profusion.—H. W.

CATTLEYA TRIANAE

CATTLEYA TRIANÆ.

[Plate 45.]

Native of Colombia.

Epiphytal. *Stems* oblong, club-shaped, furrowed, about a foot in height, clothed with whitish membranaceous sheaths. *Leaves* solitary, coriaceous, ligulate-oblong, recurved at the tip, of a deep green colour, six to eight inches long. *Scape* two or three-flowered, proceeding from a terminal oblong compressed brownish bract or sheath, about two inches long. *Flowers* large, variable in colour, from white to a dilute delicate tint of rosy purple in the typical form, the lip being of a rich magenta; *sepals* three inches or more in length, oblong-lanceolate, plane, of a delicate blush or pallid tint of rosy purple; *petals* of the same colour, rhombeo-ovate, retuse, crispulate at the anterior edge; *lip* convolute at the base, where it is of a pale purplish mauve, the front lobe obovate, rounded and crimped in the anterior part, where it is bilobed, wholly covered with crimson-magenta, exceedingly rich and brilliant, the disk marked with a broad rich orange-yellow bilobed blotch. *Column* club-shaped, bearing at the tip a pair of sickle-shaped wings.

Cattleya Trianæ, *Linden and Reichenbach fil.*, in *Mohl and Schlechtendal's Botanische Zeitung*, xviii., 74 (1860); *Reichenbach fil.*, in *Walpers' Annales Botanices Systematicæ*, vi., 315.

Cattleya labiata Lindigiana, *Karsten*—fide *Reichenbach fil.*

Cattleya labiata Trianæ, *Duchartre, Journal de la Société Impériale d'Horticulture*, 1860, 369—fide *Reichenbach fil.*

Epidendrum labiatum, *var.* Trianæ, *Reichenbach fil.*, in *Walpers' Annales Botanices Systematicæ*, vi., 315.

This very charming species of *Cattleya* was first obtained from Colombia for European gardens, in 1856, by Mr. Linden, to whom we are indebted for so many choice introductions amongst exotic plants. It is one of the best and most useful of the species, especially for winter decoration, and though very variable as regards the tinting of the flowers in the many distinct forms which have been imported, it is always of a brilliant and strikingly beautiful appearance, owing to the rich colouring displayed on the lip. The shades of colour in the several kinds varies from pure white through blush white and pale pinkish rose to a pale shade of deep rose, the upper lobe of the lip being of a rich magenta-crimson,

There are, as we have just said, many forms of *Cattleya Trianæ*. That which we now figure we consider to be a very good representative of the typical form of the species. Our drawing was taken from a very fine specimen grown in the beautiful collection of R. B. Dodgson, Esq., of Beardwood, Blackburn, in which many forms of this lovely species occur, as we have already intimated under

Plate 40. We have also mentioned Mr. Osman as being a most successful cultivator of Orchidaceous plants.

Cattleya Trianæ is a free-growing as well as a free-blooming species. It has dark green foliage, and attains the height of about fifteen inches, producing its blossoms during the winter months, after the growths are completed. The sepals and petals are of a pale pink or delicate tint of rosy purple; the lip is of a bright magenta, margined with delicate rose-pink, the edge being fringed, and the disk marked with a rich orange-coloured two-lobed blotch. The flowers are produced in February and March, and continue for several weeks in perfection, provided they are kept free from moisture, which if it lodges upon them will cause them to become spotted, and destroy their beauty. It is an excellent plan to place the plants when in bloom in a drier house than that in which they are grown, and to bestow all possible care upon their preservation. Of themselves they form a fine group of Cattleyas, there being so many distinct varieties, of colours such as to make them thoroughly useful for decorative purposes. By their agency our Orchid houses may be kept gay for several months in the most dreary time of the year, for when there is a number of plants they may be flowered in succession. The plants can now be bought at a reasonable price, as, in consequence of the large importations of them, they have become plentiful.

Cattleya Trianæ requires the same treatment as *C. labiata*, *C. Mossiæ*, and others of the same class, all these plants being, indeed, regarded by some botanists as varieties of one species. For their successful growth the use of good fibrous peat and sphagnum moss, with ample drainage, are requisite, and they should be kept well elevated above the pot rim. They will also thrive well suspended from the roof in baskets, and also on blocks of wood, but in these cases they require more attention as to watering, in order to keep them moist at the roots.

Cattleyas thrive best when placed under the influence of strong light, but they must be shaded from bright sunshine. This *régime* induces them to blossom more freely, indeed, if the bulbs are not well ripened good results cannot be anticipated. The plants require a plentiful supply of water during the growing season, by which we mean that they should be kept constantly moist about the roots. When their growth is completed less may be applied, merely enough to keep them in a plump state. When the flower spikes begin to appear more water should again be given, as it will induce the buds to swell more freely, in consequence of which the flowers will be finer.

Orchids from Dr. Paterson.—This gentleman has been kind enough to send us a grand spike of his *Vanda tricolor Patersoni*. It is a fine form of this noble Orchid, the flowers being of large size, and well marked, the lip beautifully coloured with rich magenta. A nice spike of the beautiful *Aërides nobile* came in the same parcel, and a curious *Eria* with white flowers, named *stellata* (the true *stellata* has dull pale yellow flowers) on account of the star-shaped form of its blossoms.—B. S. W.

MILTONIA CUNEATA.

[Plate 46.]

Native of Brazil.

Epiphytal. *Pseudobulbs* ovate-oblong, compressed, light green, diphyllous. *Leaves* ligulate-oblong, striate, somewhat carinate beneath, of a cheerful green colour. *Scape* radical, erect, bearing a five to eight flowered raceme, each of the pedicels having at its base a whitish glumaceous triangular bract about half as long as the ovary. *Flowers* large and showy, with a broad flat white lip; *sepals* oblong-lanceolate, narrowed to the base, of a deep chocolate-purple with a yellowish green tip on which is a dark spot, the margins undulated, the lateral ones connate at the base; *petals* similar in form, size, and colour; *lip* white, with a pink tinge, and one or two chocolate spots near the base, wedge-shaped, with a narrow claw-like base and a broad flat anterior expanded portion, somewhat repand on the margin, and furnished on the disk with two raised plates or lamellæ. *Column* short, creamy white, bidentate on the middle portion, the anther-bed cucullate, membranaceous, denticulate, retuse.

Miltonia cuneata, *Lindley, Botanical Register*, 1844, misc. 28; 1845, t. 8; *Id., Folia Orchidacea*, art. *Miltonia*, No. 8; *Reichenbach fil., Xenia Orchidacea*, i. 131; *Moore, Illustrations of Orchidaceous Plants*, art. *Miltonia*, 7 t. 2; *Lemaire, L'Illustration Horticole*, t. 237; *Williams, Orchid Grower's Manual*, 5 ed., 223.

Miltonia speciosa, *Klotzsch*, in *Otto and Dietrich's Allgemeine Gartenzeitung*, xvii. 129.

Oncidium speciosum, *Reichenbach fil.*, MSS.; *Id., Walpers' Annales Botanices Systematicæ*, vi. 761.

This genus of Orchids is not a very extensive one, but among the species which are known there are some beautiful plants of distinct and striking character. The species which we now represent is a very pretty one, which we are pleased to have the opportunity of introducing to the notice of our readers. The specimen figured was grown in the fine collection of W. Cobb, Esq., of Sydenham, who is a great lover of Orchids, and makes it a study to procure the best kinds and cultivate them in the best possible manner.

Miltonia cuneata was introduced by the Messrs. Rollisson, of Tooting, about the year 1843, and first flowered with them in the spring of 1844. It is a free-growing plant, with light green foliage, which grows about a foot in height, and produces its flowers in erect racemes, seven or often more together. The sepals and petals are chestnut-brown, tipped with greenish yellow, and the lip is broad and of a creamy white colour. The flowers are produced in February and March, and last for several weeks in beauty.

This *Miltonia* requires the heat of the Cattleya house, and thrives in good fibrous peat; it must be well drained in order that the superfluous moisture may pass off, as the plant dislikes stagnant water about the roots. In the growing season a moderate supply of water may be given at the roots, but less will suffice when the growth is completed. We find the Miltonias to require more shade than most Orchids. Their leaves are thin in texture, and consequently are soon injured, which makes it necessary to pay strict attention to the requirements of the plants, as while too much sun would dry up the foliage, too much moisture about it would cause it to go spotted.

They are propagated by dividing the bulbs, leaving two old ones and a growth in front. These divided portions should be potted in small pots until they get well established, and always at all times be kept free from insects. The white scale will sometimes attack them, and do much injury if not promptly removed.

Lælia elegans prasiata.—From E. Harvey, Esq., Aigburth, Liverpool, comes a spike of a grand form of this fine *Lælia*. The flowers are six inches across, the sepals and petals purplish rose, the lip rich magenta. This is quite a distinct form, and worthy of a place in every collection. Accompanying this was a spike of *Scuticaria Hadweni*, var. *pardalina*, described some time ago in the *Gardeners' Chronicle*.—B. S. W.

Dendrobium nobile (three-lipped).—Mr. Knight, Gardener to the Right Hon. W. H. Smith, M.P., Greenlands, Henley-on-Thames, sends us a curious form of this grand old Orchid, with three lips, two of the lips taking the place of the petals of the normal flowers, and being marked and coloured in a similar manner to the ordinary lip. In addition, the flower was deliciously scented. We do not suppose that this variation will be constant, being more probably a malformation.—B. S. W.

Bollea cœlestis as a block plant.—When visiting the establishment of Messrs. Vervaet et Cie., of Gand, Belgium, in April last, we were surprised to see this lovely Orchid quite at home on a block, growing luxuriantly, and rooting in all directions; the growths were very strong, and as healthy as any we have seen. Is it possible that this may be the secret of success with this Orchid? Being an epiphyte, found growing on the limbs of trees, we should imagine this treatment would be the most natural for it. It is evident that pot culture does not suit it, as it frequently dies off after two or three years.—H. W.

ODONTOGLOSSUM ALEXANDRAE

ODONTOGLOSSUM ALEXANDRÆ.

[Plate 47.]

Native of Bogota, New Grenada.

Epiphytal. *Pseudobulbs* oblong-ovate, compressed, often stained brownish purple, two-leaved. *Leaves* ligulate-oblong, acute, channelled toward the base, of a pleasing light green colour. *Scape* radical, supporting a many-flowered raceme, or in the more vigorous plants a panicle equalling or exceeding the leaves, and having small acute bracts at the base of the pedicels. *Flowers* exquisitely chaste and beautiful, white, tinted with rose, and variously spotted, fully three inches across; *sepals* ovate-lanceolate, acuminate, entire or toothed, white, suffused more or less with a delicate tint of rose-pink; *petals* in the best forms, broadly ovate and much undulated, entire or toothed, white, rather less deeply tinted with pink; *lip* shorter than the petals, oblong-ovate, the margin much crisped and the shortly acuminate apex recurved, white, with a rich yellow stain down the centre, and marked with reddish brown radiating lines on the disk, and with one or two (or in some forms many) rich red-brown spots or blotches half-way down, the disk also bearing a bilamellate crest. *Column* arcuate, club-shaped, chestnut-red.

Odontoglossum Alexandræ, *Bateman*, in *Gardeners' Chronicle*, 1864, 1083; *Id.*, *Proceedings of the Royal Horticultural Society*, iv., 186; *Id.*, *Monograph of Odontoglossum*, t.t. 14, 19; *Hooker*, *Botanical Magazine*, t. 5691 (var. *Trianæ*), t. 5697 (var. *guttatum*); *Jennings*, *Orchids*, t. 26; *Warner*, *Select Orchidaceous Plants*, 2 ser., t. 23 (var. *Warneri*); *Floral Magazine*, t. 343; *Williams*, *Orchid Grower's Manual*, 5 ed., 228.

Odontoglossum Bluntii, *Reichenbach fil.*, in *Mohl and Schlechtendal's Botanische Zeitung*, "n. 53, Dec. 64;" *Van Houtte*, *Flore des Serres*, t. 1652.

Odontoglossum crispum, *Lindley*, in *Annals of Natural History*, xv., 256; *Id.*, *Folia Orchidacea*, art. *Odontoglossum*, No. 57; *Reichenbach fil.*, in *Walpers' Annales Botanices Systematicæ*, vi., 845.

The Princess of Wales' Odontoglossum, one of the most beautiful and one of the most useful of Orchids, was found in the province of Bogota, in New Grenada, at an altitude of from 7,000 to 8,000 feet, growing in great profusion on the branches of trees in the forests of that elevated region. It was introduced to this country in 1864 by Mr. Weir, when collecting for the Royal Horticultural Society, and was described in that year by Mr. Bateman as above quoted. There cannot be two opinions respecting its beauty, as it is one of the finest Orchids in cultivation; and though there are amongst the imported plants great diversities in the form and colour of the flowers, yet all are beautiful. Some have the flowers of a pure white, in others they are variously suffused with a delicate rosy hue; some are spotted with crimson, and there are those with yellow flowers, but the

most chaste and beautiful of them all are the pure white varieties, tinted with rose colour, which are mostly sought after by cultivators, though the many beautifully spotted forms produce a fine contrast when intermixed with the others.

The figure we now publish was taken from a well-grown specimen in the collection of H.R.H. the Prince of Wales, at Sandringham, and, as this species is named in honour of the Princess of Wales, who is a great lover of flowers, and especially of the Orchidaceæ, we are proud to be able to announce that our artist has been permitted to prepare an illustration of this charming plant from such a source. There is a very fine collection of these plants at Sandringham, and among them are some very fine specimens, the accomplished gardener, Mr. C. Penny, being most successful in flowering them with grand spikes of bloom. There are also numerous varieties in the collection, but the one we have figured is a good example of the typical form.

Odontoglossum Alexandræ is a compact-growing plant, attaining about a foot in height; it is furnished with lively green foliage, and produces its blossoms after the growth is completed on a drooping spike which, as it overhangs the green foliage, has a most graceful appearance. The sepals are white, slightly tinged with pale rose colour, the petals are pure white, and the lip is white, with reddish-brown spots upon it, and a patch of bright orange-yellow at the base. The plants bloom at different times of the year, according to the period of the completion of their growth, and, therefore, by having a good quantity of plants, a succession may be kept flowering all the year round. We are never without a good show of these plants in bloom, and it is the same in all collections where they are grown in considerable numbers. The individual flowers will last many weeks in beauty. They are extremely useful for cutting, as they keep for a long time in water.

As this species requires what is called cool treatment very little expense need be incurred in its cultivation. Indeed, any one having a small house where a temperature can be kept up in winter of from 45° to 50°, with as little fire-heat as possible, can grow a great quantity of them, since they occupy but little space. In summer no fire-heat is required, unless the nights are cold, which is seldom the case at that season, but no draughts should be allowed to reach them, as draughts are as deleterious to them as to all other plants grown in glass houses. They require shading from the scorching rays of the sun, but like to have all the light that can be given them. Under this treatment they will grow stronger and stronger, and flower more and more freely.

The potting material which we find most suitable for them is good fibrous peat, with the finer earthy particles shaken out; they must have good drainage, in fact the pots must be three-parts filled with drainage material, and the plants well elevated above the pot rim. They are naturally free-rooting plants, but we find a little live sphagnum moss on the top of the peat causes them to root more freely, and as they require a good deal of moisture at the roots during their period of growth, the moss, if kept in a growing condition, will help to supply their wants.

J. Nugent Fitch del. et lith.

J. Nugent Fitch imp.

VANDA CŒRULESCENS.

VANDA CŒRULESCENS.

[PLATE 48.]

Native of Burmah.

Epiphytal. *Stem* one to two feet high or more, producing long stout flexuous roots from the leaf bases. *Leaves* close set, distichous, linear-ligulate, truncately-bilobed, coriaceous, channelled, five to seven inches long, of a deep green colour, carinate, the keel forming an angular projection at the tip. *Scapes* or *Peduncles* slender, distantly vaginate, with small appressed sheaths, axillary, erect, bearing a ten to twenty flowered raceme longer than the leaves. *Flowers* neat and very pleasing, pale mauve-blue; *sepals* incurved, cuneate-ovate, obtuse, clawed, of a pale greyish blue; *petals* similar in size, form, and colour, twisted at the base, with the two lateral lobes tawny-yellow, and adnate to the column, the middle or front lobe obcuneate dilated and emarginate at the apex, the margins deflexed, of a rich violet-blue, with a pair of keel-shaped deep violet calli and a short intermediate one on the disk, the spur straight or incurved, conical, tipped with green. *Column* small, blue.

VANDA CŒRULESCENS, *Griffith, Notulæ*, 352; *Id., Icones*, t. 331; *Lindley, Folia Orchidacea*, art. *Vanda*, No. 19; *Reichenbach fil.*, in *Walpers' Annales Botanices Systematicæ*, vi., 868; *Id.*, in *Gardeners' Chronicle*, 1869, 498; 1870, 529, fig. 97; *Hooker fil., Botanical Magazine*, t. 5834 (colour faulty); *Williams, Orchid Grower's Manual*, ed. 5, 305.

The Vandas are a most noble family of Orchids, including amongst them many beautiful species, such as *V. suavis, V. tricolor, V. Batemanni*, and others. They are well furnished with leaves, and make splendid specimens, requiring considerable space in which to grow them, but they are plants of great beauty, and when not in bloom make grand objects of attraction. No collection should be without them, as they flower at all times of the year. Where a number of these Orchids are grown, as at Chatsworth, we have seen as many as 193 spikes in blossom at one time, presenting a most glorious sight.

The Vandas are of easy cultivation. The species which we now figure is a small, elegant-growing, free-blooming plant, and also very distinct in character, as will be seen from the plate, which gives a good representation of it. Our drawing was taken from a beautiful specimen growing in the splendid collection of C. Dorman, Esq., The Firs, Laurie Park, Sydenham, who has one of the best grown collections of Orchids we have seen, and one which does great credit to Mr. Coningsby, the gardener.

Vanda cœrulescens is a compact growing species, as may be seen from our plate. In this instance it produced a flower spike of a drooping habit fifteen inches

long, which is quite an exception, as the flower spikes are generally more or less erect or ascending. The sepals and petals are of a bluish-mauve, the lip of a deep blue. It is altogether most distinct in colour, and a plant that is greatly required in a collection of Orchids for the sake of the charming contrasts it yields. It blooms at different times of the year, and continues for several weeks in beauty. We find the heat of the East India house is congenial to it. It grows well in sphagnum moss, and must have good drainage, because it must be kept moist during the growing season; when at rest less moisture is required. The plant thrives either in a pot or in a basket suspended from the roof, so that it may get plenty of light, but must be shaded from the sun.

ODONTOGLOSSUM ALEXANDRÆ REGINÆ.—F. A. Philbrick, Esq., Oldfield, Bickley, has sent us two fine spikes of this grand variety, the white flowers of which are of good form and profusely blotched, both on the sepals and petals, with reddish crimson. It is one of the finest spotted forms of this valuable species.—B. S. W.

ORCHIDS FROM PERTH, N.B.—We have received from W. Macdonald, Esq., Woodlands, Perth, a nice spike of *Scuticaria Steelii*, with three flowers. This is a curious growing Orchid, and one seldom sees it in blossom. The flowers are produced from the base of the reed-like leaves, and are yellow, distinctly spotted with crimson. The plant makes a fine specimen for a block, and when suspended from the roof shows off its leaves and flowers to advantage. Accompanying this was a spike of a fine variety of *Odontoglossum Pescatorei*, with flowers measuring three and a half inches across. Mr. Macdonald informs us that this spike was produced from a plant with small bulbs, and he expects, as the plant gets stronger, that it will produce larger flowers. There was also in flower at The Woodlands a grand specimen of *Camarotis purpurea*, with about 100 spikes of its pretty rosy pink flowers fully open.—B. S. W.